Province of the
EASTERN CAPE
DEPARTMENT OF EDUCATION

GRADE 2

NUMERACY

PROVINCIAL LESSON PLANS

TERM 3

2009

Table of Contents

Introduction

This Resource Pack on Lesson Plans for **Grade 2 teachers** were developed by the Provincial Curriculum Advisors and Foundation Phase teachers.

The **Provincial Numeracy Learner Attainment Targets** documents were developed in 2008 by a Provincial Task Team for Grades R – 3. The attainment targets have been developed using the NCS Learning Outcomes and Assessment Standards from the Mathematics Learning Area. These targets indicate the expected level of achievement of learners at the end of each term. The attainment targets have a similar meaning to the 'milestones' in the Foundations for Learning Assessment Framework. The milestones have been infused into the Numeracy Learner Attainment Targets.

Teachers should use the weekly lesson plans in conjunction with the Provincial Numeracy Learner Attainment Targets. The Formal Assessment Tasks referred to as FAT 1, 2 and 3 are clearly described in Section 3 of the Grade 2 Provincial Numeracy Learner Attainment Targets with the Methods, Forms and Tools for assessment.

The weekly lesson plans have been developed using:
- The Numeracy Learner Attainment Targets as a starting point.
- The NCS Learning Outcomes and Assessment Standards.
- Government Gazette 30880 of 14 March 2008, which outlines the Foundations for Learning Campaign, details the minimum expectations for the teaching of Literacy and Numeracy as well as providing timetabling and resourcing suggestions.
- Foundations for Learning: Foundation Phase Numeracy Lesson Plans.

The weekly lesson plans are intended to assist teachers to pace their teaching, give them guidance when planning their assessment tasks and provide suggestions to enrich teaching practice. If you follow these lessons systematically you will cover the curriculum and reach the milestones for Grade 2.

They are not intended to be prescriptive and teachers are not expected to abandon good practice in order to blindly follow the plans.

The weekly lesson plans provide:
- An Annual Learning Programme Overview;
- The NCS Learning Outcomes and Assessment Standards from the Mathematics Learning Area targeted for every week;
- Weekly lesson plans with recommended number ranges for the third term;
- A series of activities for the different components of Numeracy;
- Exemplars of the Formal Assessment Tasks for the third term. These Tasks are indicated as **FAT 1, 2 and 3**;
- Resources that will be useful to the teacher;
- Space for reflection and recording of Barriers to Learning on a weekly basis;
- A template for Flard Cards.

The Provincial Weekly Lesson Plans in conjunction with the Provincial Learner Attainment Targets can therefore be used as clearly defined Lesson Plans although the format is different to the one most teachers are used to. It is recommended that the teacher breaks down the weekly plans into daily plans. However the plans are not prescriptive and allow you to use your own way of presenting the lessons.

ADAPTING THE WEEKLY LESSON PLANS

Learners progress at different rates and learn in different ways, and you, as the class teacher, are best able to pace teaching and learning to the needs of the learners. Teachers are free to introduce their own sequence and adapt the number ranges where necessary.

ANNUAL NUMERACY OVERVIEW – GR 2

	Term 1	Term 2	Term 3	Term 4
L0; AS	LO 1: AS1; 2.1; 2.2; 2.3; 2.4; 3; 4.1; 6; 7; 8.1; 8.2; 8.3; 9.1; 10.1; 10.2; 10.3; 10.4; 11; 12 LO 2: AS 1; 2; 3; 4; 5 LO 3: AS 1; 2; 3; 4; 7 LO 4: AS 1; 2; 3.1; 3.2; 4; 5; 6 LO 5: AS 1; 2; 3; 4; 5	LO 1: AS 1; 2.1; 2.2; 2.3; 2.4; 3; 4.1; 4.2; 5; 6; 7; 8.1; 8.2; 8.3; 9.1; 10.1; 10.2; 10.3; 10.4; 11; 12 LO 2: AS 1; 2; 3; 4; 5 LO 3: AS 1; 2; 3; 4; 7 LO 4: AS 1; 2; 3.1; 3.2; 4; 5; 6 LO 5: AS 1; 2; 3; 4; 5	LO 1: AS 1; 2.1; 2.2; 2.3; 2.4; 3; 4.1; 4.2; 5; 6; 7; 8.1; 8.2; 8.3; 9.1; 9.2; 10.1; 10.2; 10.3; 10.4; 11; 12 LO 2: AS 1; 2; 3; 4; 5 LO 3: AS 1; 2; 3; 4; 5; 6; 7 LO 4: AS 1; 2; 3.1; 3.2; 4; 5; 6 LO 5: AS 1; 2; 3; 4; 5	LO 1: AS 1; 2.1; 2.2; 2.3; 2.4; 3; 4.1; 4;2; 5; 6; 7; 8.1; 8.2; 8.3; 9.1; 9.2; 10.1; 10.2; 10.3; 10.4; 11; 12 LO 2: AS 1; 2; 3; 4 LO 3: AS 1; 3; 4; 5; 6; 7 LO 4: AS 1; 2; 3.1; 3.2; 5; 6 LO 5: AS 1; 2; 3; 4; 5
TARGETS	Count forwards and backwards in 1's and 10's from a given number in the range 0-100 Count forwards and backwards in 2's and 5's from a given number in the range 0-50 Know and read number symbols to 50 Write number names to 34 Ascending and descending order 0 – 34 Describe position of numbers in the range 0 – 34 e.g. before, after, between, Compare numbers e.g. more/less/bigger/small etc. 0-34 Solve money problems involving totals and change in rands and cents 0-50 Equal sharing and grouping with and without remainders 0-50 Build up a whole 10 when adding and subtracting in the range 0 – 50 Addition and subtraction involving whole tens + or – a whole ten in the range 0-50 Multiplication of whole 1-digit by 1-digit numbers with answers in the range 0-30 Estimate answers to +, - & x problems Mental Maths involving + and – with answers up to 10 Build up and break down numbers 1-34 Double numbers with answers in the range 1 – 34 Halve even numbers 1-34 Explain solution to problems 0-50 (Integrate with all number work) Check solution given to problems by peers Copy and extend patterns using	Count forwards and backwards in 1's and 10's from a given number in the range 0-150 Count forwards and backwards in 2's and 5's from a given number in the range 0-100 Know and read number symbols to 100 Write number names of whole tens to 100 Ascending and descending order 0 – 50 Describe position of numbers in the range 0 – 50 e.g. before, after, between Compare numbers e.g. more/less/bigger/small etc. 0-50 Compare and describe a ½ with a whole Recognise place value 0-50 Solve money problems involving totals and change in rands and cents 0-99 Equal sharing and grouping with and without remainders 0-99 Build up a whole 10 when adding and subtracting in the range 0 – 99 Addition and subtraction of whole tens with whole tens in the range 0 – 99 Multiplication of whole 1-digit by 1-digit numbers with answers in the range 0-40 Estimate answers to +, - x problems Mental Maths involving + and – with answers up to 15 Build up and break down numbers 1-50 Double numbers with answers in the range 1 – 50 Halve even numbers 1-50 Explain solution to problems 0-50 (Integrate with all number work) Check solution given to problems by	Count forwards and backwards in 1's and 10's from a given number in the range 0-200 Count forwards and backwards in 2's and 5's from a given number in the range 0 -150 Know and read number symbols to 150 Write number names to 100 Ascending and descending order 0 – 99 Describe position of numbers in the number range 0 – 99 e.g. before, after, between Compare numbers e.g. more/less/bigger/small etc. 0-99 Order, describe and compare a ½ and a ¼ with a whole or with each other Recognise place value 0-99 Solve money problems involving totals and change in rands and cents 0-99 Equal sharing and grouping with and without remainders 0-99 Addition and subtraction with adding or subtracting a whole ten to/from any given number 0-99 Multiplication of whole 1-digit by 1-digit numbers with answers in the range 0-50 Estimate answers to +, - & x problems Mental Maths involving + and – with answers up to 20 Mental Maths involving multiplication with answers to 20 Build up and break down numbers 1-99 Double numbers with answers in the range 1 – 99 Halve odd and even numbers 1-99 Explain solution to problems 0-99	Count forwards and backwards in 1's and 10's from a given number in the range 0-200 Count forwards and backwards in 2's and 5's from a given number in the range 0-200 Know and read number symbols to 200 Write number names to 100 Ascending and descending order 0 – 99 Describe position of numbers in the number range 0 – 99 e.g. before, after, between Compare numbers e.g. more/less/bigger/small etc. 0-99 Order, describe and compare a ½ and a ¼ with a whole or with each other Recognise place value 0-99 Solve money problems involving totals and change in rands and cents 0-99 Equal sharing and grouping with and without remainders 0-99 Addition and subtraction with 2-digit numbers in the range 0 – 99 Multiplication of whole 1-digit by 1-digit numbers with answers in the range 0-50 Estimate answers to +, - & x problems Mental Maths involving + and – with answers up to 20 Mental Maths involving multiplication with answers to 20 Build up and break down numbers 1-99 Double numbers with answers in the range 1 – 99 Halve odd and even numbers 1-99 Explain solution to problems 0-99 (Integrate with all number work)

TARGETS				
	physical objects and drawings Copy and complete number sequences in the range 0 – 50 Pack out own patterns using physical objects Create own number patterns 0-50 Describe a given/own physical or number pattern Identify and describe familiar geometrical patterns Recognize, identify and name 2-D shapes in pictures and the classroom Sort and describe 2-D shapes according to straight and round edges and size Observe and build models with any re-usable waste material Symmetry in 2-D shapes Describe own position in relationship with a 3-D object Read hours on an analogue clock Names of the week Months of the year Calculate elapsed time in hours Calculate elapsed time in days Sequence events according to days and weeks Identify religious and historical events on a calendar Estimate the length of objects, e.g. pencils Measure the length of objects using hand spans, feet, paper clips, etc. Collect data in classroom according to one attribute, e.g. birthdays Sort data Draw pictographs representing the sorted data Answer questions based on the graphs	peers Copy and extend patterns using physical objects and drawings Copy and complete number sequences in the range 0 – 100 Create own patterns using drawings Create own number patterns 0-100 Describe a given/own number pattern Identify and describe familiar geometrical patterns Recognize, identify and name 2-D shapes and 3-D objects in pictures and the classroom Sort and describe 3-D objects according to objects that roll and slide and size Observe and build models with any re-usable waste material Symmetry in 2-D shapes Describe peer's position in relationship with a 3-D object Read hours and minutes on an analogue clock Set given time on an analogue clock Order of days of the week and months of the year Calculate elapsed time in minutes Calculate elapsed time in weeks Sequence events according to months Identify religious and historical events on a calendar Estimate and compare the mass of different objects using a balance scale Order objects according to their mass, e.g. heaviest to lightest Collect data in the school environment according to one attribute Sort data Draw pictographs representing the sorted data Answer questions based on the graphs	(Integrate with all number work) Check solution given to problems by peers Copy and complete number sequences in the range 0 – 150 Create own number patterns 0-150 Describe a given/own number pattern Identify and describe familiar geometrical patterns Recognize, identify and name 2-D shapes and 3-D objects in pictures and the classroom Observe and build 2-D shapes Symmetry in 3-D objects Recognise and describe 3-D objects from different positions Position self in comparison with other 3-D objects Read hours and minutes on an analogue clock Set given time on an analogue clock Calculate elapsed time in minutes Calculate elapsed time in months Sequence events according to years Identify religious and historical events on a calendar Estimate capacity of different containers Compare the capacity of different containers using cups to measure e.g. least to most Collect data in the school environment according to one attribute Sort data Draw pictographs representing the sorted data Answer questions based on the graphs	Check solution given to problems by peers Copy and complete number sequences in the range 0 – 200 Create own number patterns 0-200 Describe a given/own number pattern Recognize, identify and name 2-D shapes and 3-D objects in pictures band the school environment Use 2-D shapes to build 3-D objects Symmetry in 3-D objects Recognise and describe 3-D objects from different positions Position self in comparison with other 3-D objects Read hours and minutes on an analogue and digital clock Calculate elapsed time in hours and minutes Calculate elapsed time in days, weeks and months Identify religious and historical events on a calendar Estimate and measure the capacity of different containers using cups Estimate and measure the length of different objects Estimate and measure the mass of different objects using a balancing scale Collect data in the classroom or school environment according to one attribute, e.g. farm animals Sort data (pictures) Draw pictographs representing the sorted data Answer questions based on the graphs

WEEK 1

TERM 3   WEEK 1:

LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably
AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200
AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200
AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100
AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers
AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers
AS 6: Solves money problems involving totals and change in rands and cents.
AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits
    8.2 Multiplication of whole 1-digit numbers by 1-digit numbers with solutions to at least 50
    8.3 Estimation.
AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Multiplication of whole numbers with solutions to at least 20
AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines
AS 11: Explains own solutions to problems
AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names two-dimensional shapes and three-dimensional objects in the environment and in pictures including: boxes, (prisms), balls (spheres) and cylinders, triangles, squares and rectangles, circles
AS 5: Recognises 3D objects from different positions.
AS 6: Positions self within the classroom or 3D objects in relation to each other

LEARNING OUTCOME 4 – MEASUREMENT

AS 2: Names in order the days of the week and the months of the year.

GRADE 2 LESSON PLAN – TERM 3 WEEK 1

LO 1

AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 60 (small group)**

o **Count out beads, sticks, beans, stones, blocks to at least 60. (small group)**

o **Give a number of objects to the learners, eg. 57 beans that were counted out by the teacher beforehand. They count it out and see whether they get the same answer. (small group)**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 121, 122, 123, …. …., 100, 101, 102, … …,   Learners count in 1's from any given number. Begin at 125, count on to 145. Begin at 150, count back to 132.**

o **Teachers make a 100-square jigsaw by copying a number grid and cutting it into sections as in the picture below. In small groups, each learner receives a "puzzle jigsaw".   The learner starts with the large piece of puzzle (picture below) and completes the puzzle by adding all the individual numbers cards to complete the whole puzzle.**
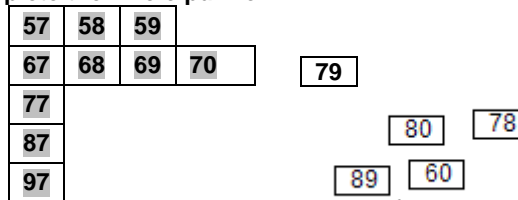
57	58	59	
67	68	69	70

79

77
87
97

80	78

89	60

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 80, 90, 100,… …,   150, 140, 130,… ….**

o **Let the learners count using an empty pegboard, or blank number grid. Find the number 20. Count on in 10's. Stop at 60. Count back in 10's till 10, now count forwards in 10's from this number etc(learners can work in groups)**

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 110. The learners may use counters, an abacus, number grid or number line. Eg. 85, 90, 95, … …   105, 100, 95, …. …. (whole class activity)**

o **Each learner receives a different number. They count on or backwards from their number in 5's etc(small group)**

AS 2.4

o **Learners count forwards and backwards in two's in the number range 0 – 110. The learners may use counters, an abacus, number grid or number line. Eg. 84, 86, 88, … … 110, 108, 106, … ….**

o **Let the learners count using an empty pegboard. Find the number 24. Count on in 2's. Stop at 48. Count back in 2's till 20, now count forwards in 10's from this number etc (learners can work in groups)**

o **Count on the number lines in 2's**

AS 3

o **Learners read any number symbol in the number range 1 – 110. The learners read the symbols on number cards, a number grid or a number line. Eg. 43   101**

o **Flash number names and learners say what they are or cover it on their grid**

o **Learners learn the number names and symbols while counting from a number grid or abacus. Teacher says: "Find 45."**

o **Learners write any number name in the number range 0 - 69 . Eg. 34 thirty-four   21 twenty-one**

o **Which number is to the left of 69? Which numbers come between 26 and 29?**

AS 4.1

o **Learners order whole numbers 0 – 69 in ascending order (smallest to biggest). Learners may use a number grid or a number line. Eg. (23, 54, 18, 12)**

o **Give each learner a few number cards to cut out. They put the <u>numbers</u> in order from the least to the most and the most to the least.**

67	24	98	19	46
53	79	32	27	48

o Learners order whole numbers 0 – 69 in descending order (biggest to smallest). Learners may use a number grid or a number line. Eg. (43, 54, 68, 22)

o Learners describe the position of the numbers 0 – 69 using before, after, between. Learners may use a number grid or a number line. Eg. What comes before 69? What comes after 45? What comes between 43 and 45

o Fill in the missing numbers:
..., 52, ..., 54, 55, ..., …. etc.

o Learners compare numbers 0 – 69 using more than, less than, bigger than, smaller than, biggest, smallest. Learners may use a number grid or a number line. Eg. 1 more than 56   2 more than 44   1 less than 66   2 less than 42   Which is the biggest 69 or 44, which is the smallest 56 or 65, which numbers between 45 and 57 are bigger than 49,   which numbers between 37 and 60 are smaller than 55?

o Use vocabulary like: first, last, between, in front of, behind, next, half-way between; ask questions like: what comes before/after/between/three places before/two places after etc. Learners can use a number block or a number line.

1	2	3	4		6	7	8	9	10
11	12		14	15	16	17		19	20
21		23	24	25	26	27	28	29	30
31	32	33	34	35	36		38		40
41	42	43	44	45	46	47		49	
	52	53	54	55	56	57	58	59	60
61	62	63		65	66		68	69	70
71	72	73	74	75	76	77		79	
81	82	83	84	85		98	88	89	90
91	92	93	94		96	97	98		100

Example

|	Before	after	above	below	3 more	5 less
49	48	50	39	59	52	44
26						
35						
Own number						

AS 5

o Learners identify the place value of a given digit in a number in the number range 0 – 69. Learners may use flard cards. Eg. (6̲8   60 or 6 tens)   (4̲9 ☐ or ☐ ones)

- Teacher writes the number <u>5</u>8 on the board. The learners pack this number out. Learners identify the underlined digit. (50 or 5 tens)   They pack out another number eg. 5<u>9</u>. Ask what the underlined digit is. (They answer – 9 or 9 ones.)

- Ask them to pack the following numbers with the flard cards:

  Number 54. Now change it to 44; |5 0| |4| |4 0| |4|
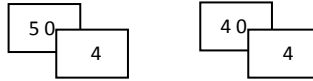
AS 6

- Learners solve money problems in the number range 0 – 69 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money.

- Learners calculate addition and subtraction sums: R44 + R12 + R11 = ☐

- Learners solve word problems. I want to buy a book for R54. I have R45. How much do I still need?

- Challenge the learners to:
  -make up 50c with 5 coins   -make up 20c with 2 coins
  -make 60c with 3 coins   - make up 55c with 4 coins
   Using play money, challenge the learners to make 3 different ways of making 65, (small group)

AS 8.1

- Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 69. Learners may use a number square or a number line. Eg. 47 + 10   45 – 10
56 + 5 = 56 + 4 + __   We bake 45 cup cakes. We sell 10 to the Gr 1 class. And 20 to the Gr 3 class. How many cup cakes are left?

- Building on prior knowledge of small number combinations (strategies), learners now apply this knowledge to their "ten" e.g. if 2 + 1 = 3….. what will 20 + 10 equal…. (30).
 What will 22 + 12 make …… (34) Why?

 AS 8.2

- Learners count forwards and backwards in multiples of 3,4,6,7,8 and 9 in the number range 0 – 50 (in preparation for multiplication)

 AS 8.3

- Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's

---

AS 9.1

- Learners perform mental calculations involving addition and subtraction in the number range 0 – 15. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 12 + 3 – 1 = __   15 – 4 = __   Addition and subtraction of single-digit numbers in the number range 0 – 15 with more than one operation.

- Learners perform mental calculations with addition and subtraction with answers to 15.

Teachers use <u>flash cards</u> with number symbols to represent the number combinations e.g.

13 + 2 =

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 15. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 5 x 2 = __   2 x 2 = __**

AS 10.1

o **Learners break down numbers in the number range 0-69 and may use a number grid and a number line. Eg. (69 = 50 + 10 + 9 or   69 = 60 + 1 + 3 + 5)**

o **Use flard cards, break the numbers up and describe it e.g. 59 = 50 + 9**

o **How many tens and ones(units) does 92 have?**

o **Learners build up numbers in the number range 0 – 69. Learners may use counters, drawings, number grid or a number line. Eg. (30 + 30 + 5 + 2 = 67)**

o **Which number can I build with 60 and 2?**

o **Which number has 8 tens and 4 ones(units)?**

AS 10.2

o **Learners double numbers with answers in the number range 0 - 69.   Learners may use concrete apparatus, drawings, number lines, number grid, abacus or <u>flard cards</u>.**

   Eg Double   14 ⟶   28
    ie 10 + 4
       10 + 4
       20 + 8

o **Learners halve numbers <u>without a remainder (even numbers)</u> in the number range 0 - 69. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or <u>flard cards</u>.   Eg. halve 24 ⟶ 12**
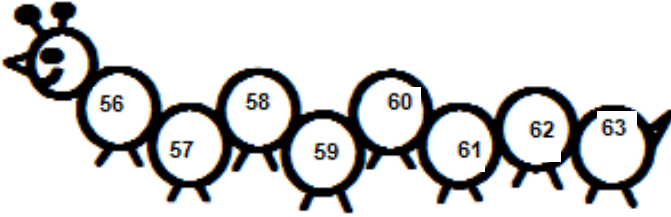
   ie   20 + 4
     10 + 2

AS 10.3

o **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving   numbers. (bottle tops, straws, blocks, beans, samp, stones, …)**

AS 10.4
o **Integrate with all number work - learners use number lines to determine the answers to the following: eg.**

Questions: Two more than 56 …….., 5 less than 63………, halve 62 ………, before 58 after 59…………, between 59 and 62 ………………, between 56 and 60…………………..
57 + 4 = ……………… 61 – 2 = ……………… 56 + 2 + 2 + 2 = …………………..,
break down 58 …………..+ ……………., build up 59 = 50 + …….., number name: 61 …….,

AS 11

o Learners explain solution to problems in the number range 0 – 99

o Jane has R56,00 in her purse. She buys two books at the CNA. She spends R18,00 on one and R24,00 on the other. How much money will she have left?

o Cindy has 36 flowers and she needs to arrange them into 3 vases. How many flowers does she put into each vase?

o Nonna and her friends play netball. If there are 7 players in a team, how many players will there be in 2 teams?

AS 12

o Learners check each other's solutions to problems in the number range 0 – 99. Eg. Allow learners to demonstrate their solution to the set problem, on the blackboard. Discuss it with the other learners. The rest of the group checks the learner's method and solution (integrate with all number work, not only with problem solving.)

LO 2

AS 2

o Copies and extends simple number sequences to at least 110, by completing a worksheet with a choice of the following: Complete the patterns or fill in the missing numbers. Eg.

55 56 57 …. …. …. 61;   …. 18 20 22 24 26 …. …. ….. 34;   90 80 70 …. …. …. 30

LO 3

AS 1

o **Learners recognise, identify and name 2D shapes and 3D objects in the environment and in pictures. Eg. 3D objects: boxes, balls, cylinders; 2D-shapes: triangles, squares, rectangles, circles**

AS 5

o **Learners recognise and describe 3D objects from different positions eg. from the top, from the side, from the bottom.**

o **In small groups pack out different objects like boxes, balls and spheres which the learners or the teacher brought from home. As the learners to describe the 3D objects from different positions Eg from the top, side and the bottom.**

o **Written task: Join the 3D objects on the left side, with the shape on the right side (what does it look like from the top)**
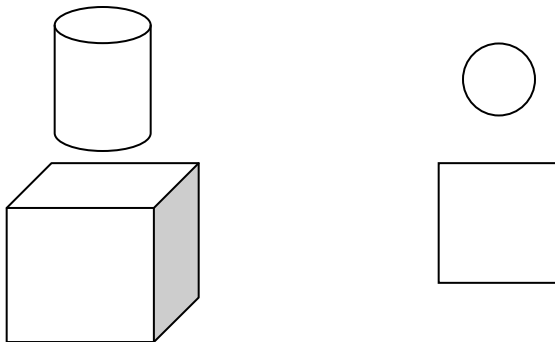
AS 6

o **Learners position themselves and use vocabulary to explain position of self in comparison with other 3D objects. Eg on, above, behind, in front of, under, next to, in between**

o **Do an activity in small groups. Pack out 3D objects in a big circle. Each learner stands behind an object. The teacher plays or sings a song and the learners move clockwise in the circle. When the music stops, the teacher instructs the learners to stand in front of/behind/next to/etc the object. Each learner then explains where he/she is standing in relationship to the object. Repeat the exercise a few times.**

LO 4

AS 2

o **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar. Eg. Which day comes before Sunday? Which month comes after July? Which day is between Tuesday and Thursday?**

RESOURCES:

Counters (beads, sticks, beans, stones, blocks, bottle tops, straws, samp), abacus, number grid, number line, empty peg board, blank number grid, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - , 2D shapes (triangles, squares, rectangles, circles), 3D objects (boxes, balls, cylinders, spheres), CD player with CD or piano, calendar

---

REFLECTIONS:

BARRIERS:

WEEK 2

TERM 3   WEEK 2

LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably
AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200
AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits
    8.2 Multiplication of whole 1-digit by 1-digit number with solutions to at least 50
    8.3 Estimation.

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200
AS 3: Creates own patterns

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names two-dimensional shapes and three-dimensional objects in the environment and in pictures including: boxes, (prisms), balls (spheres) and cylinders, triangles, squares and rectangles, circles
AS 4: Recognises symmetry in two-dimensional shapes and three-dimensional objects.
AS 5: Recognises 3D objects from different positions.
AS 6: Positions self within the classroom or 3D objects in relation to each other

LEARNING OUTCOME 4 – MEASUREMENT

AS 2: Names in order the days of the week and the months of the year.
AS 3: Calculates elapsed time in:
   3.1 hours and minutes using clock
   3.2 days, weeks and months using calendars.

LEARNING OUTCOME 5 – DATA HANDLING

AS 1: Collects data (alone and/or as a member of a group or team) in the classroom and school environment to answer questions posed by the teacher (e.g. "How many learners are there in each classroom?")
AS 5: Describes own or a peer's collection of objects, explains how it was sorted and answers questions about it

GRADE 2 LESSON PLAN – TERM 3 WEEK 2

LO 1
AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 70**

o **Count out beads, sticks, beans, stones, blocks to at least 70.**

o **Give a number of objects to the learners, eg. 68 beans that were counted out by the teacher beforehand. They count it out and see whether they get the same answer**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 160. The learners may use counters, an abacus, number grid or number line. Eg. 135, 136, 137, …. …., ….. 141   106, 107, 108, … …, …. …. 112   Learners count in 1's from any given number. Begin at 143, count on to 159. Begin at 160, count back to 141.**

o **Learners count forwards and backwards on a number grid. Point to the numbers whilst counting. Put your finger on 3. Point with your finger as you count from 3 to 143. Put your finger on 6. Point with your finger as you count from 6 to 96 etc**

AS 2.2

o **Learners count forwards and backwards in tens from any multiple in the number range 0 – 160. The learners may use counters, an abacus, number grid or number line. Eg. 90, 100, 110,… …, 160, 150, 140,… ….**

o **Count 10c coins (play or real money)**

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 120. The learners may use counters, an abacus, number grid or number line. Eg. 95, …., …, 110, … 120   115, 110, 105, …. ….**

o **Each learner receives a different number. They count on or backwards from their number in 5's etc.**
   Learners may write symbols in their mat books eg. 95 100 105…… to 120

AS 2.4

o **Learners count forwards and backwards in twos in the number range 0 – 120. The learners may use counters, an abacus, number grid or number line. Eg. 94, 96, 98, … …   120, 118, 166, … ….**

o **Hand out a few cards with numbers (multiples of 2) to the learners in a small group. Call out a number, ie 88. The child who has this card, puts it down on the mat. Then ask who has the next multiple of two. The child puts down the 90. Build up the number line.**

AS 3

o **Learners read any number symbol in the number range 1 - 120**

o **Learners learn the number names and symbols while counting from a number grid or abacus. Teacher says: "Find 99."**

o **Learners each have a set of cards with number names and symbols. They match the symbol to the name. Eg. 35   thirty- five**

o **Learners write any number name in the number range 0 - 79 . Eg.   43 forty-three 29 twenty-nine**

o **Learners copy a symbol or number name from the blackboard and then write the number name or symbol, without any assistance from the teacher, or copying from other sources.**

AS 4.1

o **Learners order whole numbers 0 – 79 in ascending order (smallest to biggest). Learners may use a number grid or a number line. Eg. (23, 54, 18, 12)**

o **Learners order whole numbers 0 – 79 in descending order (biggest to smallest). Learners may use a number grid or a number line. Eg. (43, 54, 68, 22)**

o **Learners describe the position of the numbers 0 – 79 using before, after, between. Learners may use a number grid or a number line. Eg. What comes before 69? What comes after 45? What comes between 43 and 45**

o **Learners compare numbers 0 – 79 using more than, less than, bigger than, smaller than, biggest, smallest. Learners may use a number grid or a number line. Eg. 1 more than 56   2 more than 44   1 less than 66   2 less than 42   Which is the biggest 69 or 44, which is the smallest 56 or 65, which numbers between 45 and 57 are bigger than 49,   which numbers between 37 and 60 are smaller than 55?**

o **Use vocabulary like: first, last, between, in front of, behind, next, half-way between; ask questions like: what comes before/after/between/three places before/two places after etc. Learners can use a number block or a number line.**

1		3		5	6	7	8	9	10
11	21	13	14		16	17	18		20
21	22	23	24	25		27	28	29	30
31		33		35	36	37	38	39	
41	42	43	44	45	46	47		49	
51	52		54		56	57	58	59	60
61	62	63		65	66		68	69	70
	72	73	74	75	76	77		79	80
81	82		84	85		98	88	89	90
91		93	94	95	96	97		99	100

Example – workcard

	Next	5 more	10 less	Before	after	+ 10
45						
38						
62						
Own number						

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 79. Learners may use flard cards. Eg. (68   60 or 6 tens)   (49 ☐ or ☐ ones)**

o **Use flard cards, break the numbers up and describe it e.g. 79 = 70 + 9**
Which number can I build with 60 and 2?

o **Ask the learners to pack the following numbers with the flard cards:**
   - **number 54 and to change it to 44;**
   - **number 47 and to change it to 74;**
   - **number 55, then say plus 3 (the learners change the 55 to show the answer), plus 5, minus 10, etc.;**

o **Make the number below and break it down, using the numbers in the blocks below**

37 = _____+ _____+ _____

37 = _____ + _____+ _____+ _____

37 = _____ +_____ +_____ +_____

37 = _____+ _____

1
6
30
40
9

2
5
7
8
20

10
60
3
4
50

AS 6

o **Learners solve money problems in the number range 0 – 79 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R4,50 R23,65.**
**Learners calculate addition and subtraction sums: R44 + R12 + R13 = ☐**
Learners solve word problems. I want to buy a bag for R64. I have R23. How much do I still need?

o **Using play money or real money, challenge the learners to make 3 different ways of making 78,**
  Eg. They pack/cut out: 50c + 20c + 5c + 2c + 1c
  **   50c + 10c + 10c + 5c + 2c + 2c   (1c change)**
  **   20c + 20c + 20c + 10c + 5c + 2c + 1c**

o **Jack has twenty 10c coins. Sipho has five 50c coins and Mihle has eleven 10c coins.**
  Who has the most coins?
  Who has the most money?
  Jack spends half of his money. How much does he have left?
  Mihle uses one of his coins. How much did he spend?
  Sipho uses R1,00 of his money. How much does he have left

_____

AS 7

o **Learners solve and explain practical problems involving equal sharing and grouping where the remainder is a fraction (1/4) in the number range 0 – 79. Learners may use concrete apparatus or drawings. Eg. Share 25 sausages amongst 4 learners**

o **Divide the chocolate equally amongst 4 children**
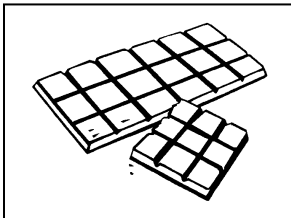
   How many squares of chocolate are in the picture? _____

   How many squares will each child get? _____

o **The teacher colours in one half of a block and ask learners which part of the block is coloured in;**

o **The teacher colours in one quarter of a block and ask learners which part of the block is coloured in;**

AS 8.1

o **Learners perform mental calculations with addition and subtraction with answers to 79. Teachers use flash cards with number symbols to represent the number combinations**

o **Learners need to understand the addition concept and the related vocabulary: (more, add, sum, count on, total, altogether)**

57 + 22 =
50 + 20 + 7 + 2
50 + 20 = 70
70 + 7 = 77
77 + 2 = 79   OR
50 + 20 = 70
70 + 7 = 77
77 + 2 is… 78, 79 (they count on)

AS 8.2

o **Learners count forwards and backwards in multiples of 3,4,6,7,8 and 9 in the number range 0 – 50 (in preparation for multiplication**

AS 8.3

o **Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout al the LO's**

o **Give each learner a flashcard with a addition, subtraction or multiplication problem on, Eg. 44 + 23 75 – 26, 12 x 6. The learners look at the sum for a few seconds and then write their estimated answer down. The teacher says pencils down and the learners bring their card and answer to the blackboard. The class/group discuss the answer and then each child calculates the answer to see if the learner had estimated correctly.**

AS 9.1

o **Learners perform mental calculations involving addition and subtraction in the number range 0 – 16. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 12 + 4 – 1 = __   15 – 5 = __**

o **Addition and subtraction of single-digit numbers in the number range 0 – 16 with more than one operation.**

o **Activities can be varied by the placeholder e.g. 3 + □ = 11; 11 - □ = 7; 11 = 8 + □ This can be done in the form of a game. Teacher says: "I am thinking of 7" . 3+; 5+; "Now I'm thinking of 9"…….+4 + 2, etc "Now I'm thinking of 8"…….+1 + 3 + 0, etc Use this same technique with minus.**

o **Each child receives a set of sums as well as a set of answers on cards. The teacher says ready, go and the child matches the question to the correct answer. The first one to finish correctly, is the winner Eg. 15 – 4 =   11   9 + 3 – 1 =   11**

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 5 x 2 =   2 x 2 =**

o **The teacher flash cards with repetitive addition and the learners perform mental calculations Eg. 2+2+2+2 =   5 + 5+ 5=**

o **Learners play snap with sets of cards with calculations on some cards and the answers on others. Two learners play at a time. If the learner puts down a card (4 x3) and the other learner puts down**

the correct answer (12) they shout Snap. The first learner to shout out Snap, takes the cards. The learners count the cards at the end to determine the winner.

AS 10.1

o **Learners break down and build up numbers in the number range 0-79 and may use a number grid and a number line. Eg. (79 = 60 + 10 + 9 or   79 = 70 + 1 + 3 + 5)**
   Learners build up numbers in the number range 0 – 79. Learners may use counters, drawings, number grid or a number line. Eg. (50 + 20 + 5 + 2 = 77)

o **Learners do a worksheet as follow:**
   You can break down 67 as…
   67 = 60 + 7 or
   67 = 10 + 10 + 10 + 10 + 10 + 10 + 5 + 1 + 1
   67 = 20 + 20+ 20 + 5 +2
   67 = 50 + 10 + 7

AS 10.2

o **Learners double numbers with answers in the number range 0 - 79.   Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. Eg. double 14 double 17.**

o **Learners use flard cards and build numbers, Eg. 23 Now break the number down and then double the ten and the ones Eg. 20 + 3 + 20 + 3 = 46 or   20 + 20 = 40   3 + 3 = 6   40 + 6 = 46**

o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 79. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg. halve 24**

o **Learners halve numbers with a remainder (odd numbers) in the number range 0 - 79. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 27 halve 19**

o **Learners use flard cards and build up a number Eg. 23. They now break down the number and halve the tens and then try to halve the ones. They will have to use counters/sweets/viennas, etc to help them Eg. 20 + 3   halve of 20 is 10;   halve of 3 is 1 ½;   10 + 1 ½ = 11 ½**

AS 10.3

o **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers. See 10.1 and 10.2**

AS 10.4

o **Number line: Integrate with all number work**

AS 11

o **Learners explain solution to problems in the number range 0 –79**

AS 12

o **Learners check each other's solutions to problems in the number range 0 – 79**

LO 2

AS 2

o **Copies and extends simple number sequences to at least 110**

o **Give learners a worksheet which they have to complete Eg.**
   104; 106; 108; …. …. …..   95; 100; … … …

AS 3

o **Learners create their own number patterns in the number range 0 – 110. Learners may use a number grid or a number line.**

o **Creates own patterns. Explain it to a friend**
   Eg   93; 97; 101; 105; …. …. …. ….. (adding on 4)   120; 118; 116; 114; ….. ….(counting in 2's)

LO 3

AS 1

o **Learners recognise, identify and name 2Dshapes and 3D objects in the environment and in pictures. Eg. 3D objects: boxes, balls, cylinders; 2D-shapes: triangles, squares, rectangles, circle.**

o **Recognises symmetry in two-dimensional shapes and three-dimensional objects.**

AS 4

o **Learners recognize symmetry in 3D objects Eg. boxes, balls, cylinders**

AS 5

o **Learners recognise and describe 3D objects from different positions eg. from the top, from the side, from the bottom**

o **Allow learner to stand next to a 3D object. The rest of the class must close their eyes and the learner must describe his/her object (positioned from the side). The learner who answers correctly, will now have a turn and describe another 3D object from another position (top)**

AS 6

o **Learners position themselves and use vocabulary to explain position of self in comparison with**

other 3D objects. Eg on, above, behind, in front of, under, next to, in between

o Take learners outside. Let them position themselves behind/in front of/next to any object, Eg. a tree. They explain where they are standing – in pairs.

LO 4

AS 2

o Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar (incidental). Eg. What day is it today / What is the date / What day will it be tomorrow?

AS 3.1

o Learners calculate elapsed time in minutes. Learners may use model clocks. Eg. Start at 8 o'clock. What will the time be when 5 minutes have passed/when 15 minutes have passed/when 35 minutes have passed?

AS 3.2

o Learners calculate elapsed time in months. Learners may use a calendar. How many months from January to September

o Teacher asks learners: This month is July – what will next month be?

LO 5

AS 1

o Learners collect data in the classroom and school environment according to one attribute. Learners answer questions about the collections Eg. What vegetables do you eat? Which vegetables are least/most liked by the learners?

AS 5

o Describes own or a peer's collection of objects, explains how it was sorted and answers questions about it

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, cards with numbers (multiples of 2), flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, set of cards with sums and set of cards with the answer to the sums (snap cards), chocolate, sausages, sweets, or pictures of chocolates and sausages sweets, 2D shapes (triangles, squares, rectangles, circles), 3D objects (boxes, balls, cylinders, spheres), calendar, analogue clocks

REFLECTIONS:

BARRIERS:

WEEK 3

TERM 3   WEEK 3

LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200
AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits

    8.2 multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

    8.3 Estimation.

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2 10 x 2

AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Describes observed patterns

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names two-dimensional shapes and three-dimensional objects in the environment and in pictures including: boxes, (prisms), balls (spheres) and cylinders, triangles, squares and rectangles, circles

AS 4: Recognises symmetry in two-dimensional shapes and three-dimensional objects.

AS 5: Recognises 3D objects from different positions.

AS 6: Positions self within the classroom or 3D objects in relation to each other

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 2: Names in order the days of the week and the months of the year.

AS 3:   Calculates elapsed time in:
    3.1 hours and minutes using clock
    3.2 days, weeks and months using calendars.

AS 5: Identifies important dates on calendars including dates of: religious festivals, eg. religious festivals

GRADE 2 LESSON PLAN – TERM 3 WEEK 3

LO 1

AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 80**

o **Count out beads, sticks, beans, stones, blocks to at least 80.**

o **Give a number of objects to the learners, eg. 72 beans that were counted out by the teacher beforehand. They count it out and see whether they get the same answer**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 170. The learners may use counters, an abacus, number grid or number line. Eg. 133, 134, 135, …. …., 120, 121, 122, … …, Learners count in 1's from any given number. Begin at 133, count on to 168. Begin at 160, count back to 132.**

o **Each learner receives a different number. They count on or backwards from their number in 2's, 10's, 5's etc**

o *FAT 1: Practical in small groups The teacher circles any number on the number grid in the number range 0 - 200. The learners count forwards and backwards in ones from the given number. ORAL AND PRACTICAL - RUBRIC*

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 170. The learners may use counters, an abacus, number grid or number line. Eg. 70, 80, 90,… …, 170, 160, 150,… ….**

o **Let the learners count using an empty number grid. Find the number 60. Count on in 10's. Stop at 170. Count back in 10's, start at 120 to 50.**

o *FAT 1: Practical in small groups The teacher circles a number on the number grid which is a multiple of 10. The learners count forwards and backwards in tens from the given number in the number range 0 - 200. ORAL AND PRACTICAL - RUBRIC*

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 120. The learners may use counters, an abacus, number grid or number line. Eg. 105, 110, 115, … … 115, 110, 105, …. ….**

o **Learners trace their hands on a piece of paper and then cut it out. They now use the hands to count in 5's.**

- *FAT 1: Practical in small groups* The teacher circles a number on the number grid which is a multiple of 5. The learners count forwards and backwards in fives from the given number in the number range 0 - 150.   ORAL AND PRACTICAL - RUBRIC

AS 2.4

- **Learners count forwards and backwards in twos in the number range 0 – 120. The learners may use counters, an abacus, number grid or number line. Eg. 124, 126, 128, … …   120, 118, 116, … ….**

- **Let the learners count using an empty number grid. Find the number 62. Count on in 2's. Stop at 102. Count back in 2's. Start at 120 to 50.**

- *FAT 1: Practical in small groups* The teacher circles a number on the number grid which is a multiple of 2. The learners count forwards and backwards in twos from the given number in the number range 0 - 150.   ORAL AND PRACTICAL – RUBRIC

AS 3

- **Learners read any number symbol in the number range 1 – 120. The learners read the symbols on number cards, a number grid or a number line. Eg. 43   101**

- **Learners learn the number names and symbols while counting from a number grid or abacus. Teacher says: "Find 73."**

- **Learners write any number name in the number range 0 - 89 . Eg.   44 forty-four   39 thirty-nine**

- **Which number comes before 68? Write down the number name Which numbers come between 69 and 75? Write down the number names.**

- **Use a number of skittles (plastic bottles). Place a number or number name under each skittle. Roll the ball and read and write all the skittles that were rolled over. The numbers can also be added together and the person with the highest number wins.**

AS 4.1

- **Work in the number range 0 – 89 . Give each learner 6 different cards. The learners must clip the cards on to a string with pegs, in order, from the smallest to the biggest number, or the biggest to the smallest number. Hang the line in the classroom. Answer questions like – what comes before, after, between, what is 1 more, 2 less, etc. Which is the biggest 89 or 54, which is the smallest 63 or 36**

- **Use an old puzzle with 10 – 12 pieces. On the back of each piece, put a number. The learner puts all the pieces upside down and builds the puzzle according to numbers in ascending or descending order. Once finished, the puzzle is built and the learners can admire the picture.**

o ***FAT 1: Practical in small group*** *The teacher gives learners number cards in the number range 0 - 99, e.g. 87, 53, 65, 99 and 28.The learners order the numbers from the biggest to the smallest and the smallest to the biggest. The teacher asks questions about a given number. e.g. what comes before, after , between, what is bigger, smaller, 1 more, 1 less, 2 more, 2 less etc. in the number range 0 -99. ORAL AND PRACTICAL - RUBRIC*

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 89. Learners may use flard cards. Eg. (8_9 80 or 8 tens) (8_9 ___ or ___ ones)**

o **ask them to pack the following numbers with the flard cards:**
  - **number 63 and to change it to 43;**
  - **number 87 and to change it to 78;**
  - **number 75, then say plus 3 (the learners change the 85 to show the answer), plus 5, minus 10, etc.;**

AS 6

o **Learners solve money problems in the number range 0 – 89 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R6,30 R23,95.**
  Learners calculate addition and subtraction sums: R51 + R22 – R17 = ☐

o **Fill in the missing coins to make R1,00**
  20c + 50c + 20c + ___ = R1,00
  50c + 10c + 10c + 10c + ___ = R1,00
  20c + 20c + 20c + 20c + ___ + ___ = R1,00

o **Granny gave me R90,00 to spend on groceries and I returned with R23,40 change. How much did I spend on her groceries?**

AS 7

o **Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)**

o **Show the learners an apple. Tell them that you will share your apple with your friend. Ask them to help you decide how to do this. Do not allow them to cut it, but do it for them. Emphasise sharing equally. Show them one piece of the whole and ask whether anyone knows what it is called. Show them the number ½ and the number name "half". Let them write the number half in the air. You may use a circle and cut it in half to reinforce the concept. Display your half circle and write half next to it. Now take your halves and cut them in half again. How many piece do you have now? (4) What do we call each piece? (1/4) Show them the number ¼ and the number name "quarter". Let them write the number quarter in the air.**
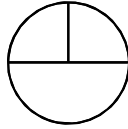
AS 8.1

- Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 89. Learners may use a number square or a number line. Eg. 77 + 10   25 – 10
  47 + 5 = 47 + 3 + __

- I have 78 marbles. I loose 20. Mom buys me 30 more. How many marbles do I have?
- *FAT 1 : Written* *Learners write the answers to addition and subtraction sums with two digit numbers in the number range 0 - 99, e.g. 37 + 51, 82 - 26, 92 - 31 + 17 WRITTEN - RUBRIC*

- *FAT 1: Practical in small groups/Written* *The teacher asks word problems with addition and subtraction sums with one or two digit numbers plus or minus a one digit number in the number range 0 - 99.   The learners solve the problems using counters, drawings or calculations, e.g. Jane picks 36 flowers. Joan picks 24 flowers. How many flowers do they have altogether? There are 31 oranges in a box. The teacher takes 22 oranges out of the box. How many oranges are left in the box? HINT: The learners write their drawings or calculations in their class workbooks, on slates or white boards. ORAL, PRACTICAL AND WRITTEN - RUBRIC*

AS 8.2

- Learners count forwards and backwards in multiples of 3,4,6,7,8 and 9 in the number range 0 – 50 (in preparation for multiplication

- Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 89

- The learners listen to the problem that the teacher poses and suggest ways of solving eg.
  ✹✹✹✹   ✹✹✹✹   ✹✹✹✹
       4+4+4   3 groups of 4   3X4 = 12

- Solve this problem:
  A cabbage patch has four rows with an equal number of plants in each row.   If there are sixteen plants altogether, how many plants are there in each row?

AS 8.3

- Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's

AS 9.1

- Learners perform mental calculations involving addition and subtraction in the number range 0 – 16. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 14 + 2 – 2= __   16 – 4 = __   Addition and subtraction of single-digit numbers in the number range 0 – 16 with more than one operation.

- o **FAT 1: Practical in small groups** *Mental maths: Addition and subtraction to 20. The teacher shows flash cards with number combinations to the learners. Each learner answers at least 20 sums. ORAL AND PRACTICAL – RATING SCALE*
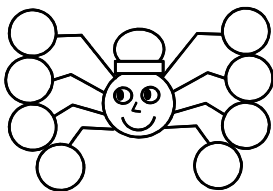
AS 9.2

- o **Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 5 x 3 = __   2 x 8 = __**

- o **FAT 1: Practical in small groups** *Mental maths: Multiplication of whole numbers with answers to at least 20. The teacher shows flash cards with multiplication sums to the learners. Each learner answers at least 10 sums. ORAL AND PRACTICAL – RATING SCALE*
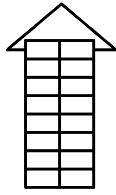

AS 10.1

- o **Learners break down and build up numbers in the number range 0-89 and may use a number grid and a number line. Eg. (89 = 70 + 10 + 9 or   89 = 80 + 1 + 3 + 5)**
  Learners build up numbers in the number range 0 – 89. Learners may use counters, drawings, number grid or a number line. Eg. (50 + 30 + 5 + 2 = 87)

- o **Workcard: building up numbers. Use only 50, 20, 10, 5, 2 and 1 to make your number below. You may use the same number more than once, Eg. 47 = 20 + 10 + 10 + 5 + 2**
  52 = _____

- o **FAT 1: Practical in small groups/ Written** *The teacher gives each learner a number between1 and 99.The learners break down the number in 5 different ways.   WRITTEN - RUBRIC*

AS 10.2

- o **Learners double numbers with answers in the number range 0 - 89.   Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. Eg. double 26, double 37.**

- o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 89. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg. halve 86**

o   **Learners halve numbers with a remainder (odd numbers) in the number range 0 - 89. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 47 halve 13**

AS 10.3

o   **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.**

AS 10.4

o   **Number line: - Integrate with all number work**

AS 11

o   **Learners explain solution to problems in the number range 0 – 89**

AS 12

o   **Learners check each other's solutions to problems in the number range 0 – 89**

LO 2

AS 2

o   **Copies and extends simple number sequences to at least 120. Learners may use an abacus, number grid or a number line.**

o   **Give learners a worksheet which they have to complete Eg.**
105 107 108 …. …. …..   105 110 … … …

o   *FAT 1: Written Learners copy and complete a number pattern in the number range 0 - 150 on a worksheet. WRITTEN - RUBRIC*

AS 3

o   **Creates own patterns. Learners create their own number patterns in the number range 0 – 120. Learners may use a number grid or a number line.**

o   **Creates own patterns. Explain it to a friend**
Eg 99 102 105 107 …. …. …. ….. (adding on 3)
**120 115 110 105 ….. ….(counting in 5's)**

AS 4

o **Learners describe a given/own pattern Eg. Learners create their own patterns and then discuss it with the group.**


LO 3

AS 1

o **Learners recognise, identify and name 2D-shapes and 3D -objects in the environment and in pictures. Eg. 3D objects: boxes, balls, cylinders   2D-shapes: triangles, squares, rectangles, circle. Learners receive a flas card with the names of the 2D shapes and 3D objects on it. They put the correct words with the correct shape or object.**
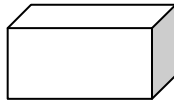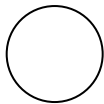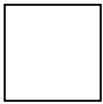
o **Learners receive a worksheet with shapes which they identify and count.**

o *FAT 1:Written Learners are given a worksheet with different intersecting 2-dimensional shapes. They identify and count the number of circles, triangles, rectangles etc. The teacher shows the learners actual 3-D objects. The learners write the names of the different objects. WRITTEN – RATING SCALE*

AS 4

o **Recognises symmetry in two-dimensional shapes and three-dimensional objects.**
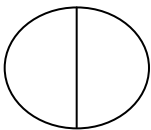
o *FAT 1: Practical in small groups Learners are given different 3-D objects. The learners show the line of symmetry in the objects ORAL AND PRACTICAL - RUBRIC*

AS 5

o **Learners recognise and describe 3D objects from different positions eg. from the top, from the side, from the bottom**

AS 6

o **Learners position themselves and use vocabulary to explain position of self in comparison with other 3D objects. Eg on, above, behind, in front of, under, next to, in between**

o **Learners must indicate where the little girl is in relationship to the house, Eg.**

LO 4

AS 1

o **Reads and writes analogue and digital clock time in terms of hours and minutes**
   Learners read the time on the clock and then write it down in their mat books or on the blackboard. The rest of the group checks.

AS 2

o **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar. Answer questions like: What day is it today? Find the day on your calendar and colour it red. What day will the 8th of August fall on? Colour this day yellow. Woman's day is on the 9th of August – colour this day blue. The 1st of August falls on a Saturday.**

What will the date be if it is 2 weeks later? Eg.

Calendar for August 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AS 3.1

o   **Calculate elapsed time in: hours and minutes using clocks**

o   **Learners answer the following questions and show or fill in on a worksheet:**
   How many minutes is it from 3 o'clock to ten past three? How many minutes is it from 1 o'clock to twenty past one? How many minute is it from 12 o'clock to twenty to one? Draw the hour in on your clock and then calculate the minutes that have elapsed. Eg.
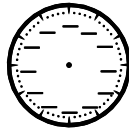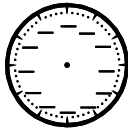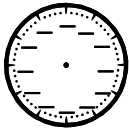
AS 3.2

o   **Calculates elapsed time in: days, weeks and months using calendars**

o   **Using a calendar, determine how many days from the day that school started this term, until school closes at the end of this term. How many days from the 6th of August to the 19th of August. How many months are there in the third term?**

AS 5

o   **Identifies important dates on calendars including dates of: religious festivals, historical festivals**
   Eg. Look at the months of August, September, October, November and December. Draw a red circle around all the religious holidays. Draw a blue square around the historical dates.

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, empty number grid, paper, scissors, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, cards with numbers, skittles or plastic colddrink bottles/tins, ball, string, pegs, 12piece puzzle, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, set of cards with sums and set of cards with the answer to the sums (snap cards), apple or picture of an apple, knife, flash card with ½ / half on it, cardboard circle, flash card with ¼ / quarter on it, 2D shapes (triangles, squares, rectangles, circles), 3D objects (boxes, balls, cylinders, spheres), calendar, analogue clocks

REFLECTIONS:

BARRIERS:

WEEK 4

TERM 3   WEEK 4
LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably
AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200
AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
   4.1 Whole numbers to at least 2-digit numbers
   4.2 Common fractions including halves and quarters (½ , ¼)

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
   8.1 Addition and subtraction of whole numbers with at least 2 digits

   8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

   8.3 Estimation.

AS 9: Performs mental calculations involving:
   9.1 Addition and subtraction for numbers to at least 20
   9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
   10.1 Building up and breaking down numbers
   10.2 Doubling and halving
   10.3 Using concrete apparatus
   10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Describes observed patterns

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 2: Names in order the days of the week and the months of the year.

AS 3: Calculates elapsed time in:
   3.1 hours and minutes using clock
   3.2 days, weeks and months using calendars.

GRADE 2 LESSON PLAN – TERM 3: WEEK 4

<u>LO 1</u>

AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 100**

o **Count out beads, sticks, beans, stones, blocks to at least 100.**

o **Give a number of objects to the learners, eg. 100 beans that were counted out by the teacher beforehand. They count it out and see whether they get the same answer**
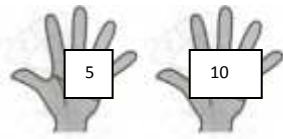
AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 180. The learners may use counters, an abacus, number grid or number line. eg. 156, 157, 158,…. ….,   138, 139, 140, … …, Learners count in 1's from any given number. Begin at 143, count on to 180 and then back to 127.**

o **Each learner receives a number grid from 101 to 200. They are given a number and they count on or backwards from their number in 1's.**

o **This activity can also be used for counting in 2's, 10's and 5's.**

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 180. The learners may use counters, an abacus, number grid or number line. eg. 100, 110, 120, ,…, …;   180, 170, 160, 150,… ….**

o **Let the learners count using a number grid. Find the number 103. Count on in 10's. Stop at 173. Count back in 10's, start at 149 to 99.**

eg. 103, 113, 123

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 130. The learners may use counters, an abacus, number grid or number line. eg. 105, 110, 115, … …   125, 120, 115, …. ….**

o **Learners trace both hands on a piece of paper and then cut them out. They now use their hands to count in 5's. Teacher writes a 5 on the palm of the first hand, a 10 on the palm of the second hand,a 15 on the palm of a third hand etc. These can be turned into fish…the fingers become the fins. Stick the "hand counting chart" up in the classroom.**

AS 2.4

o Learners count forwards and backwards in twos in the number range 0 – 130. The learners may use counters, an abacus, number grid or number line. eg. 108, 110, 112, … …   130, 128, 126, … ….

o Let the learners count using their body parts. Ten children stand in the front of the class. They count the eyes, ears, hands and legs of these children in 2's etc.

| 2,4,6,8 | 10,12,14,16 | 18,20,22,24 | 26,28,30,32 | 34,36,38,40 | 42,44,46,48 |

AS 3

o Learners read any number symbol in the number range 1 – 130. The learners read the symbols on number cards, a number grid or a number line. eg. 98   121

o Learners learn the number names and symbols while counting from a number grid or abacus. Teacher says: "Find 81."

o Learners write any number name in the number range 0-99 . Eg.   42 forty-two   93 ninety-three

o Which number comes before 32? Write down the number name. Which numbers come between 47 and 44? Write down the number names.

o Whole class activity.
   Teacher writes some questions onto paper/envelopes and puts them on the board eg.
   - Who can give me a number less than 50;
   - An even number
   - A 2-digit number
   - A multiple of 5
   - A partner of 10/100   (ensure that the questions are open-ended)
   Using a large number grid with numbers that can be taken off the grid, ask the learners one question at a time. Let individual learners remove an appropriate answer off the number grid and place it in the envelope/under the paper, on the board.
   Variation: This game can be played individually if the learners have their own number grids.

AS 4.1

o Every learner in the class is given a random number. Teacher chooses six random numbers to come to the front of the class Eg. 24, 67, 54, 73, 90 and 38.   These learners sequence themselves from the smallest number to the biggest. Given clues based on a number already in position, eg. "double 24 join the line." The learner with 48 comes forward and takes his place.   5 more than John come (John is the one holding 54 – the one holding 59 then comes forward, 3 less than 67, half of Bongani's number……   - the learner holding 45 joins the line.

AS 4.2

o **Common fractions including halves and quarters**

o **Draw shapes on sheets of paper. Hand them out to the groups and let the learners draw lines to divide these shapes into equal parts. (halves)**
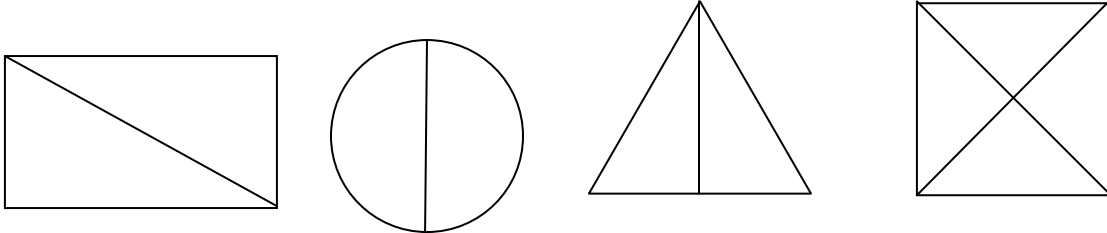
o **eg. Draw the same shapes on the paper again. Now draw lines on these shapes to show unequal parts. Hand out to the groups for discussion,**

o **Let the learners discuss the difference between an equal and an unequal part. Ask them to prove that the shapes are unequal. How do they attempt to prove it?**

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 99. Learners may use flard cards. Eg. (9<u>2</u> is 90 or 9 tens) (9<u>2</u> is [___] or [___] ones)**

o **ask them to pack out the following numbers with flard cards:**
  - **number 63. Now change it to 43;**
  - **number 97 and to change it to 22;**
  - **number 78, then say plus 2 (the learners add the 2 to the 78 to show that it can make 80), plus 4, minus 10, etc.;**

  Game: (whole class or small group activity) Show me the number:
  Each learner needs a set of flard cards. Ask the learners to pack out the flard cards on the carpet/desk in front of them. Ask the learners to hold up/pack out the various numbers eg. 68; 157; 113 etc

60	8

AS 6

o **Learners solve money problems in the number range 0 – 89 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R12,25 R57,62**

  Learners calculate addition and subtraction sums: R56 - R42 + R38 = [___]

Fill in the missing coins to make eg. R75
  R20 + R20 + R20 + ___ + ___ = R75,00
  R50 + R10 + ___ +___ = R75,00
  R 20 + 20 + R10 + ___ + ___ + ___ = R75,00
o **Learners work in small groups and make use of play-money.**
  - *counting out the required amount of money (coins and notes):* **Each learner in the group gets**

- a chance to give an instruction eg. Count out R4,30 and use as few coins as you can.
  - **(Answer: R2 R2   20c 10c)**
  - *Calculating the total amount:* **Each learner contributes two coins or notes. The group sorts them according to type, arrange them from the biggest to the smallest and calculates the total eg. R5 + R5 + R2 + 50c + 50c + 20c + 10c + 10c + 5c + 5c**
  - *Calculating change:* **The learners work in pairs in their group. They buy imaginary objects from a friend and receive the correct change eg. "John, I buy your pencil for R1,80. Here is R2. Please give me the change.**

o **How much money do you have in your purse?**

| 5 | (R1 coin) | + | 3 | (R20 note) | + | 3 | (50c coin) | == |

o **Thomas needs 8 pens. Pens cost R 5,00 for 3. How much money does he need in order to buy all his pens? Learners need to show their calculations.**

o **The Grade 2 class sells pancakes at R3 per pancake.**
  Complete this table to assist them with larger orders.

	1	2	6	11	14	20
Pancakes	R3	R6				

AS 7
o **Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)**

o **Four friends order five sandwiches at the tuckshop. If they share the sandwiches equally, how many will each person get?**

AS 8.1

o **Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 89. Learners may use a number square or a number line.**
  eg. 72 + 10   55 – 20

o **Learners need to understand the addition concept and the related vocabulary: (more, add, sum, count on, total, altogether)**
  57 + 24 =
  50 + 20 + 7 + 4
  50 + 20 = 70 + 7 = 77 + 3 = 80 + 1 = 81   OR
  50 + 20 = 70 + 7 = 77 + 4 is… 78, 79, 80, 81 (they count on)

o **Learners copy and solve number sentences that the teacher has written on the board, using the technique of breaking down and building up numbers.**
  eg. 73 – 46 =

70 – 40 – 6 + 3
70 – 40 = 30 – 6 = 24 + 3 = 27   OR   73 –40 = 33 – 3 – 3 = 27

- o   **Building on prior knowledge of small number combinations (strategies), learners now apply this knowledge to their "tens".**
  eg. If 2 + 1 = 3 : what will   20 + 10 equal …..(30)
  what will 22 + 12 make? (34)   Why?

- o   **Learners explain own solutions to problems**

- o   **Dad has 91 goats. He sells 50. How many goats does he have now?**

AS 8.2 multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50

🖐 🖐 🖐 🖐 🖐 🖐   🖐 🖐 🖐 🖐 🖐 🖐   🖐 🖐 🖐 🖐 🖐 🖐
   6   +   6   +   6   =

3 groups of 6 =

6 X 3=   (6 must be added 3 times)

3 X 6 =   (count in 6, three times)

- o   **Solve this problem: 7 groups of 6 kites are _____**

- o   **They sit in groups of four but work in pairs. They solve word problems, draw their different ways of solving the problem and write a number sentence to determine the answer. They compare their answers and their ways of solving the problems with the other partner.**

AS 8.3

- o   **Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's**

AS 9.1

- o   **Learners perform mental calculations involving addition and subtraction in the number range 0 – 17. Teachers use flashcards with the number symbols to represent the number combinations.**
  eg. 14 + 3 – 2= __   17 – 4 = __   Addition and subtraction of single-digit numbers in the number range 0 – 17 with more than one operation.

- o   **Learners explore number 17.**
  They describe number 17 in as many ways as they can eg.
    - **It stands between 16 and 18**
    - **It consists of two 8's +1**
    - **It stands to the left of 18 on a number grid/line**
    - **It is two more than 15**

- o   **They group 17 counters and each time record the groupings eg.**
  17 = 1 ten and 7 ones
  **   = 5 groups of three and 2 loose counters**
  **   = 8 groups of two and 1 one**

o   **They work in pairs. They explore combinations of 17 with two and three components and write them down, eg.**

14 + 3 = 17	**7 + 7 + 3 = 17**	**5 + 8 + 4 = 17**
3 + 14 = 17	**3 + 7 + 7 = 17**	**8 + 5 + 4 = 17**
10 + 4 + 3 = 17	**10 + 7 = 17**	**4 + 8 + 5 = 17**
4 + 10 + 3 = 17	**7 + 3 + 7 = 17**	**5 + 4 + 8 + 17 etc**

o   **Play a game – each learner receives 3 cards. The teacher starts by saying: I want a number that is two more than 5. The learner with the 7 will put the 7 on the mat. The learner will then say – I want a number that comes before 7. The learner with 6 will put the 6 down and ask the next question. The first learner without cards, is the winner.**

AS 9.2

o   **Learners perform mental calculations with multiplication with answers to at least 17. The teacher uses flash cards with number symbols to represent the multiplication calculations.**
    eg. 5 x 3 = __;   2 x 8 = __

AS 10.1

o   **Learners break down and build up numbers in the number range 0-89 and may use flard cards, a number grid and a number line. Eg. (89 = 70 + 10 + 9 or   89 = 80 + 1 + 3 + 5)**
    Learners build up numbers in the number range 0 – 89. Learners may use counters, drawings, number grid or a number line. Eg. (50 + 30 + 5 + 2 = 87)

o   **Workcard: building up numbers. Use only 50, 20, 10, 5, 2 and 1 to make your number below. Make 2 different sums for each number. You may use the same number more than once**
    Eg. 47 = 20 + 10 + 10 + 5 + 2   and
    **   20 + 20 + 5 + 2**
    52 = _____
    67 = _____
    19 = _____
    34 = _____

AS 10.2

o   **Learners double numbers with answers in the number range 0 - 89. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   eg. double 26; double 37.**

double		
15 + 4	15 + 4	38
10 + 3	10 + 3	26
		14
		42
		30

o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 89.**

Half of:-		
82 is 80 + 2	40 + 1	40 + 1
58 is 50 + 8	25 + 4	25 + 4
14		
36		
28		

o **Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. eg. halve 86**

o **Solve this problem: Andisiwe throws 36 balls into the net and Lucy throws half that number.   How many balls does Lucy get into the net?**

o **Learners halve numbers with a remainder (odd numbers) in the number range 0 - 89. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 47 halve 13**

o **Solve this problem: 40 bottles of lemonade are shared among 9 people. Each person receives _____ bottles? How many are left? Learners show their calculations by drawing on paper or in their mat books.**

AS 10.3

o **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.**

AS 10.4

o **Number line: - A similar activity to the one done in AS 4.1 can be done on the number line instead of using the learners.**
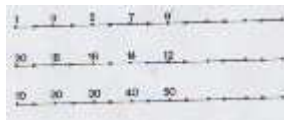
AS 11

o **Learners explain solution to problems in the number range 0 – 89**

AS 12

o **Learners check each other's solutions to problems in the number range 0 – 89**

LO 2

AS 2

o **Copies and extends simple number sequences to at least 120**

o **Creates own patterns**

o **Give learners a worksheet which they have to complete eg.**
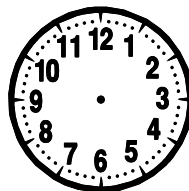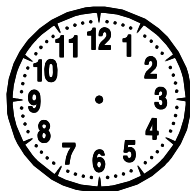**105 107 108 …. …. …..   105 110 … … …**

AS 3:

o **Creates own number patterns to at least 120. Learners may use a number grid or a number line.**

o **Creates own patterns. Explain it to a friend**
eg   99 102 105 107 …. …. …. 120 (adding on 3);
121 115 110 105 ….. ….(counting backwards in 5's)

AS 4:

o **Learners describe a given/own pattern eg.**

LO 4

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

Fill in: twenty minutes past ten   five minutes to one o' clock

AS 2

o **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar.**

How many months are in a year? _____

Which month comes before January? _____

Which month comes after August? _____
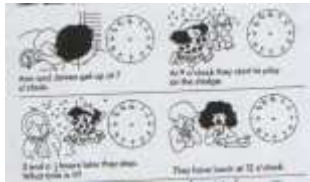
How many weeks are in February? _____

How many days are in October? _____

How many days are in a week? _____

AS 3.1

o **Calculates elapsed time in: hours and minutes using clocks**

AS 3.2

o **Calculates elapsed time in: days, weeks and months using calendars**

o **Use the calendar to find the following: eg**

   Today's date

   The date on the same day next week (How many days did you add?)

   If today is the 17th, what will the date be in two weeks time?

   My birthday is on the 4th and you were born 9 days later. What date is your birthday?

   The month has 31 day. Nineteen days have already passed. How many days are left?

   Our Sports Day is in 8 days time? Calculate from today's date.

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, empty number grid, paper, scissors, envelope, A4 paper, ruler, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, cards with numbers, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, flash card with ½ / half on it, cardboard circle, flash card with ¼ / quarter on it, calendar, birthday chart, calendar, analogue clocks

REFLECTIONS:

BARRIERS:

WEEK 5

TERM 3   WEEK 5
LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably
AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200

AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers
    4.2 Common fractions including halves and quarters (½ , ¼)

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits

    8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

    8.3 Estimation.

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses
flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2 10 x 2

AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines

AS 11: Explains own solutions to problems
AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Describes observed patterns

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names 2D shapes and 3D objects in the school environment and in pictures including: boxes (prisms), balls (spheres) and cylinders ; triangles, squares and rectangles; circles

AS 4: Recognises symmetry in 2D shapes and 3D objects

AS 5: Recognises 3D objects from different positions

AS 6: Positions self within the classroom or 3D objects in relation to each other

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 2: Names in order the days of the week and the months of the year.

AS 6: Estimates, measures, compares and orders three-dimensional objects using non-standard measures:
mass (e.g. bricks, sand bags), capacity (e.g. spoons, cups),   length (e.g. hand spans, footsteps)

GRADE 2 LESSON PLAN – TERM 3 WEEK 5

<u>LO 1</u>
AS 1
o **Learners count physical objects using one-to-one correspondence in the number range 0 – 90**

o **Count out beads, sticks, beans, stones, blocks to at least 90.**

o **Give a number of objects to 2 learners, eg. 81 beans that were counted out by the teacher beforehand. Both learners receive the same amount of beans. They count it out and see whether they get the same answer.**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 190. The learners may use counters, an abacus, number grid or number line. Eg. 153, 154, 155, …. …., 160, 161, 162, … …, Learners count in 1's from any given number. Begin at 173, count on to 190. Begin at 180, count back to 159.**

o **In groups, each learner receives a number jigsaw. The learner starts with the large piece of puzzle and completes the jigsaw by adding all the other numbers.**

76	77	78	79
86	87	88	89
96			
106			
116			

98

97

99

108

119   **109**

118

117   **107**

o *FAT 2: Written Learners count forwards and backwards in ones from a given number on a worksheet in the number range 0 - 200. WRITTEN - RUBRIC*

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 190. The learners may use counters, an abacus, number grid or number line. Eg. 90, 100, 110,… …, 190, 180, 170,… ….**

o **Let the learners count using an empty number grid. Find the number 90. Count on in 10's. Stop at 190. Count back in 10's, start at 190 to 80.**

o *FAT 2: Written Response Learners count forwards and backwards in tens from a given multiple of ten on a worksheet in the number range 0 - 200. WRITTEN - RUBRIC*

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 140. The learners may use counters, an abacus, number grid or number line. Eg. 115, 120, 125, … …   140, 135, 130, …. ….**

o **Learners count in 5's using 5c pieces.**

o *FAT 2: Written Response Learners count forwards and backwards in fives from a given multiple of five on a worksheet in the number range 0 - 150.   WRITTEN - RUBRIC*

AS 2.4

o **Learners count forwards and backwards in twos in the number range 0 – 140. The learners may use counters, an abacus, number grid or number line. Eg. 128, 130, 132, … …   140, 138, 136, … ….**

o **Let the learners count using an empty number grid. Find the number 92. Count on in 2's. Stop at 132. Count back in 2's. Start at 140 to 70.**

o *FAT 2: Written Response Learners count forwards and backwards in twos from a given multiple of two on a worksheet in the number range 0 - 150. WRITTEN – RUBRIC*

AS 3

o **Learners read any number symbol in the number range 1 – 140. The learners read the symbols on number cards, a number grid or a number line. Eg. 79   131**

o **Learners learn the number names and symbols while counting from a number grid or abacus. Teacher says: Find the number that is 2 more than 68. Start counting and say the numbers out loud. Stop when you get to 140. Now start at the number which is 10 less than 110. Count backwards and say the number out loud.**

o **Learners write any number name in the number range 0 - 99 . Eg.   44 forty-four / 99 ninety-nine. A game can be played where the teacher divides the group in 2. She calls one learner of each group to the board and ask them to write the number name of the number that is 10 less than 90. Both learners now write eighty on the board.**

o **Which number comes before 98? Write down the number name. Which numbers come between 109 and 115? Write down the number names.**

o **Use a number of cardboard fish with a paper clip for the mouth. Place a number or number name under each fish on the mat. Use a line with a magnet on and "catch" a fish. Read and write the number name or the number on the board. If correct, the learner has caught the fish and may keep it. The winner will be the learner who has caught the most fish.**

o *FAT 2:Practical in small groups The teacher shows 6 - 8 numbers in the number range 1-150. The learners read the number symbols. ORAL AND PRACTICAL – RUBRIC*

AS 4.1

o **Work in the number range 0 – 99 . Give each learner 6 different cards. The learners must order the cards from the smallest to the biggest number, or the biggest to the smallest number, on the mat. The cards are now the steps to the throne of the king. Place a cardboard crown on a learner's chair. This is the king's throne. The learner walks from one "step" to the next, answering questions about the numbers like – what comes before, after, between, what is 10 more, 5 less, etc. Which is the biggest 89 or 98, which is the smallest**
   83 or 38?

o **Use an old puzzle with 36 pieces. On the back of each piece, put a number in the number range 0 - 99. The learners put all the pieces upside down and build the puzzle according to numbers in ascending or descending order. Each learner gets a few puzzle pieces. Learner 1 will put down 56, then learner 2 will put down 77, then leaner 3 will put down 79, etc. Once finished, the puzzle is built and the learners can admire the picture.**

AS 4.2

o **Learners order and describe ½ and ¼ win ascending order (smallest to biggest) or descending order (biggest to smallest). Learners may use concrete objects, pictures or a number line.**

o **Order the following fractions from the smallest to the biggest: ½ ¼ 2/4 Give the learners an apple, Vienna or a picture of a circle, square, cross or diamond to cut in half and quarter.**
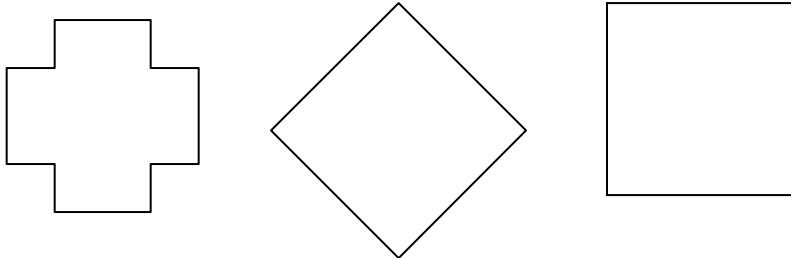
o **Let the learners cut out a big square. Fold the square in half and colour the one half red (write ½ on it). Now fold the square in quarters and colour both the remainig quarters blue Write ¼ on it). Discuss the name of each fraction, as well as how to write it. Now cut the square in half (red piece) and then the two quarters (two blue pieces).**

o **Learners can now sequence the fractions from the smallest to the biggest, or the biggest to the smallest. Make sure that the learners understand that 2/4 is the same as ½ .**

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 99. Learners may use flard cards. Eg. (91   90 or 9 tens)   (92   ☐ or ☐ ones)**

o **Ask the learners to pack the following numbers with the flard cards:**
   - **number 83**
   - **number 77   Ask the question: "How many tens in each number, how many ones**
   - **number 69   in each number?"**

o **Use the above number and ask the following:**
   "Change 83 to a bigger number by only changing the ten. Change 77 to a smaller number by only

changing the ones. Make 69 bigger by changing the tens and the ones. What will happen if I add 2 tens to 77? (the ten will become bigger etc)

o **FAT 2: Practical in small groups** *The learners identify the place value of a highlighted or underlined digit in a number in the number range 0 – 99.   ORAL AND PRACTICAL – RATING SCALE*


AS 6

o **Learners solve money problems in the number range 0 – 99 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R6,30 R23,95.**
Learners calculate addition and subtraction sums: R51 + R22 – R17 = ☐

o **Learners count out the required amount of money (coins and notes): Each learner in the group gets a chance to give an instruction eg. Count out R4,30 and use as few coins as you can. (Answer: R2 R2   20c 10c)**

o **Give each group a number of 5c and 10c coins. The learners must sort the coins into groups of the same value. Add up each group of coins. The teacher sticks the correct answer at the bottom of the container. As soon as the learners have added their coins, they check to see it their answer is the same as that of the teacher. Now build a money man with all the coins and add how much the money man is worth.**

o **Mommy bought a chocolate for R2,50, apples for R1,50, a loaf of bread for R3,50 and a bottle of juice for R10,50. How much did the till slip say she owed? If she paid with a R20 note, how much change should she have received? (Use real or play money to help)**

o **FAT 2: Practical in small group/Written** *The teacher shows the learners a poster with pictures of different items and the price of the item. Using real or play money the learners pack out the exact amount needed to pay for a specific item, e.g. Pack out the exact amount needed to buy a box of Omo that costs R16.The teacher tells the learners to choose two items to purchase. Using real or play money the learners pack out the exact amount for each of the two items,e.g. R35 and R28. The learners calculate the total   amount for the two chosen items. HINT: The learners write their calculations in their class workbooks, on slates or white boards.   The teacher asks word problems in the number range 0 - 99. The learners may use play money, drawings or calculations to solve the problems, e.g. I want to buy a book. It costs R59. I have R25. How much money do I still need? HINT: The learners write their calculations in their class workbooks, on slates or white boards. ORAL, PRACTICAL AND WRITTEN - RUBRIC*

AS 7

o **Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)**

o **Take an A4 sheet of paper and cut it into 4 strips of paper – 2 strips per learner in the group. Fold 1 strip into halves and the other into quarters. Learners cut on the fold – 2 halves and 4 quarters. The Teacher now asks them to show her ½ , a ¼ , 2/4. Allow the learners to sequence the fractions from the smallest to the biggest.**

o **Tell a story about a child who had a birthday. Choose one child to be the birthday boy/girl. Mommy**

bought him a cake (have a picture of a round cake, or the real cake), which he wanted to share with his friend. Choose a friend from the group and cut the picture/cake in half. Discuss: "What part will the birthday boy/girl get and what part will the friend get. Before they could eat it, 2 more friends arrived. They now have to cut the cake in 2 more pieces (1/4). Discuss again. Before they could eat it, 4 more friends arrived. They now have to share the cake among learners. What fraction will each child get? Discuss.

o **Learners work in pairs. They colour the pieces that make a whole with the same colour. Each group will have his/her own sheet and the first to finish, will be the winners. Eg.**
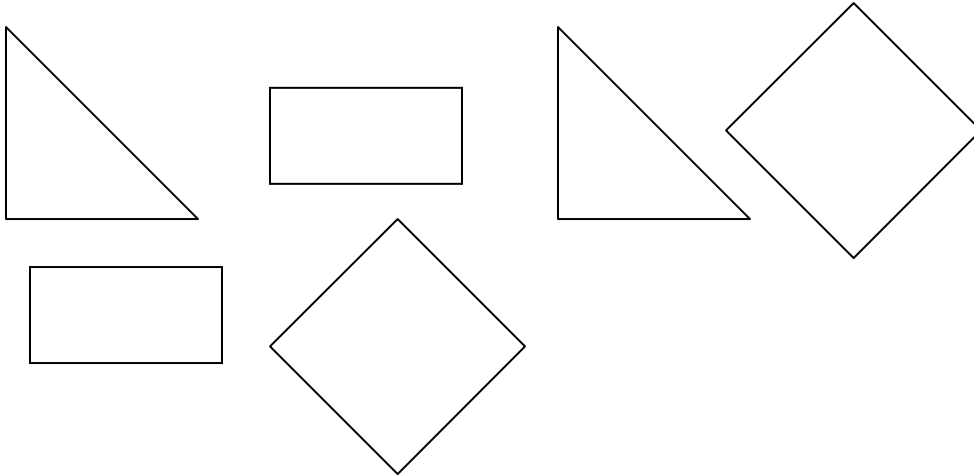
o ***FAT 2: Practical in small groups/Written*** *The teacher asks word problems in the number range 0 - 99. Learners use concrete apparatus, drawings or calculations to solve their problems, e.g. Share 25 sausages between 4 learners. How many sausages will each learner get? e.g. If there are 12 marbles in a bag. How many marbles will there be in 3 bags? HINT: The learners write their drawings or calculations in their class workbooks, on sates or white boards.   ORAL, PRACTICAL AND WRITTEN – RUBRIC*

AS 8.1

o **Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 99. Learners may use a number square or a number line. Eg. 87 + 10   75– 10**
  58 + 5 = 58 + 2 + __

o **Use a flow diagram where the initial number has been filled in. Add ten to each number. Eg.**

67
43
78 +10
22
56
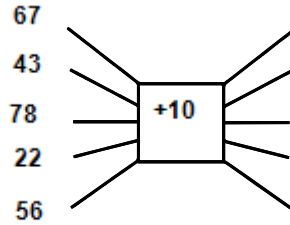
- o   **Let the learners take a group of 5 tens & 3 ones and a group of 2 tens. They can use counters or flard cards. Find the *sum* of the counters/flard cards.**

- o   ***FAT 2 : Written*** *Learners write the answers to addition and subtraction sums with two digit numbers in the number range 0 - 99, e.g. 25 + 34 + 19, 79 - 24 + 13 WRITTEN - RUBRIC*

AS 8.2

- o   **Learners count forwards and backwards in multiples of 3,4,6,7,8 and 9 in the number range 0 – 50 (in preparation for multiplication**

- o   **Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50**

- o   **The learners listen to the problem that the teacher poses and suggest ways of solving Eg.
   If 1 bicycle has 2 wheels, how many wheels will 5 bicycles have?**

2 + 2 + 2 + 2 + 2 = 10   or   5 x 2 = 10

- o   **Solve this problem:
   A taxi has 2 seats in a row. There are 12 rows in the taxi. How many people can sit in the taxi?
   The learners can place paper faces cut out of magazines in a picture of a bus – 2 in a row and 12 rows. They now count in two's to get to the answer, or repetitive addition. Eg. 2 + 2 + 2 + 2 + 2 + 2+
   2+ 2+ 2+ 2+ 2+ = 24   or   12 x 2 = 24**

  AS 8.3

- o   **Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's**

AS 9.1

o **Learners perform mental calculations involving addition and subtraction in the number range 0 – 17. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 14 + 3 – 2= __   17 – 7 = __   Addition and subtraction of single-digit numbers in the number range 0 – 18 with more than one operation.**
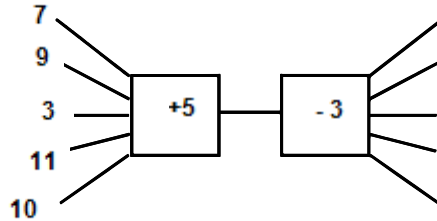
  Do the same type of activity with minus only

o ***FAT 2: Written*** *Mental maths: Addition and subtraction to 20. The teacher asks 20 sums. Learners write the answers down. WRITTEN – RATING SCALE*

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 17. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 5 x 3 = __   2 x 8 = __**

o **Multiplication of 2**

X2	7	4	1	3	5	6	8	2	0
	14								

o ***FAT 2: Written*** *Mental maths: Multiplication of whole numbers with answers to at least 20. The teacher asks 10 sums. Learners write the answers down. WRITTNE – RATING SCALE*

AS 10.1

o **Learners break down and build up numbers in the number range 0-99 and may use a number grid and a number line. Eg. (99 =80 + 10 + 9 or   99 = 90 + 1 + 3 + 5)**
  Learners build up numbers in the number range 0 – 99. Learners may use counters, drawings, number grid or a number line. Eg. (60 + 30 + 5 + 2 = 97)

o **Allow the learners to choose their own lucky number between 10 and 99. Write the numbers down and then answer questions like:**
 **Break down the numbers into tens and ones**

  46 = 40 + 6
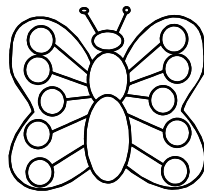
  23 =

  64 =

o ***FAT 2: Written*** *The teacher gives each learner a number between 1 and 99. Each learner builds up the number in 5 different ways. HINT: The learners write their sums in their class workbooks, on slates or white boards WRITTEN - RUBRIC*
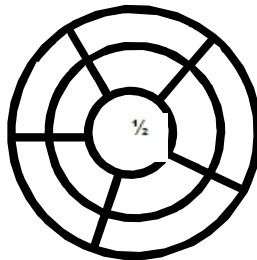
AS 10.2

o **Learners double numbers with answers in the number range 0 - 99.   Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. Eg. double 46, double 39.**
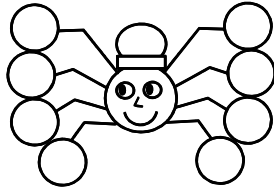
o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg. halve 92**

o **Learners halve numbers with a remainder (odd numbers) in the number range 0 -99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 67 halve 83**

o ***FAT 2: Practical in small groups/Written*** *The learners double numbers with answers in the number range 1 – 99. The learners may use counters, drawings or the number line. HINT: The learners write their drawings or calculations in their class workbooks, on slates or white boards. ORAL, PRACTICAL AND WRITTEN - RUBRIC*

AS 10.3

o **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.**

AS 10.4

o   **Number line: - Integrate with all number work**

_____

AS 11

o   **Learners explain solution to problems in the number range 0 –99**

_____

AS 12

o   **Learners check each other's solutions to problems in the number range 0 – 99**

_____

LO 2

AS 2

o   **Copies and extends simple number sequences to at least 130. Learners may use an abacus, number grid or a number line.**

o   **Extend the number sequences. Then answer the questions.**
    68; 66; 64; 62; ____; ____; ____; _____
    Add the digits in each of the numbers together. What do you notice?

o   **85; 80; 75; 70 ____; ____; ____; ____**
    What is repeated? _____
    What else do you notice? _____

o   *FAT 2: Written Learners copy and complete a number pattern in the number range 0 - 150 on a worksheet. WRITTEN - RUBRIC*

AS 3

o   **Creates own patterns. Learners create their own number patterns in the number range 0 – 130. Learners may use a number grid or a number line.**

o   **Creates own patterns. Explain it to a friend**
    Eg 99 103 107 111 …. …. …. ….. (adding on 4)
   **122 115 110 105 ….. ….(counting in 5's)**

AS 4

o   **Learners describe a given/own pattern Eg. Learners create their own patterns and then discuss it with the group.**

LO 3

AS 1

o **Learners recognise, identify and name 2D-shapes and 3D -objects in the environment and in pictures. Eg. 3D objects: boxes, balls, cylinders   2D-shapes: triangles, squares, rectangles, circle. Learners bring 3D objects from home. Each child receives a name of a 2D shape on a flash card. The learner tries to put it with the correct 3D object and labels it. Now write the 3D names for the 2D shapes on cards and play a snap game. You can even include the pictures of the 2D shapes and the 3D objects in the game as well.**

AS 4
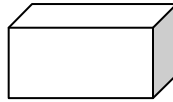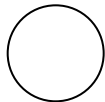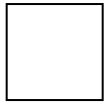
o **Recognises symmetry two-dimensional shapes and three-dimensional objects. Give the learners a worksheet with 2D shapes and 3 D objects on. They have to determine if the shape or object is symmetrical. If it is, the learner can colour the one side.**
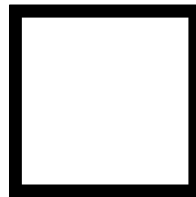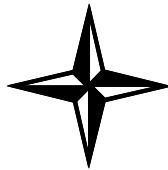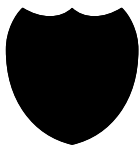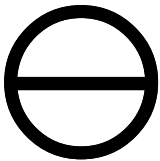
AS 5

o **Learners recognise and describe 3D objects from different positions eg. from the top, from the side, from the bottom. Learners can look at a shoe box. Stand in front of it – draw what you see. Stand next to it – draw what you see. Stand on your chair on look down on it – draw what you see. Stand close to it – draw what you see. Stand far away – what do you see.**

o **Look at a triangular box (toblerone chocolate box). Choose the correct words to describe the position you are looking from. Eg from the top, from the bottom, from the side, from the fron**

TOBLERONE
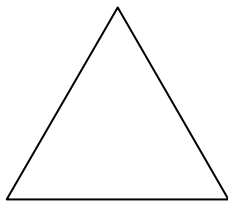
side   **front**
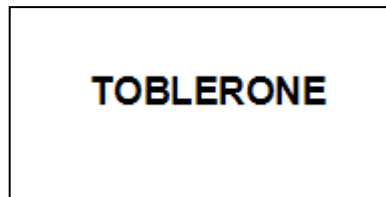
o **Learners must indicate where the trees are in relationship to the house, Eg.**

   Next to, in front, to the left, to the right, behind.

AS 6

o **Learners position themselves and use vocabulary to explain position of self in comparison with other 3D objects. Eg on, above, behind, in front of, under, next to, in between**

   Eg. the man is in the car.   The girl stands behind the ball.

LO 4

AS 1

o **Reads and writes analogue and digital clock time in terms of hours and minutes**
   Learners complete a worksheet by filling in the correct time. Use a model clock to do it physically before the worksheet is completed. Eg.

   **6 o" clock   10 past 8   5 to 12**

o ***FAT 2 : Practical in small groups*** *The teacher gives the learners a sheet on which pictures of clocks display analogue time. The learners read the times on the clocks. ORAL AND PRACTICAL – RATING SCALE*

AS 2

o **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar. Answer questions like: How many months in a year? Which is the first month? Which month comes before September? Which is the 10th month?. How many days in a week? How many days in a working week?**

AS 3.1

o **Calculate elapsed time in: minutes using clocks**

o **Learners answer the following questions and show or fill in on a worksheet:**
How many minutes is it from 5 o'clock to twenty past five? How many minutes is it from 3 o'clock to ten past three? How many minutes is it from 11'clock to twenty to twelve?

o **The bus will leave after sport at the time that is on this clock. If it takes 10 minute to get home, what time will I be home. Draw the hands in and complete the clock with the correct time.**
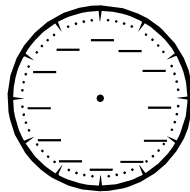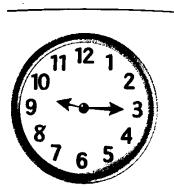
I will be home at _____

AS 3.2

o **Calculates elapsed time in: days, weeks and months using calendar.**

o **Give the learners a calendar of August. Answer the following questions: How many days in August? Circle the number with red. On which day does August start? Circle the day with blue. What is the date of the last Sunday in August? Circle it with yellow. If I play a rugby match/ netball game on the 7th and the 14th of August, on which days will I be playing? Circle the day with orange.**

Calendar for August 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AS 6

- o **Learners estimate and measure the capacity of different containers. Learners can use cups, spoons, mugs. Eg. How many spoons/cups do I use to fill up a 2L bottle?**

- o **Learners compare the capacity of containers and order the objects from the most to the least and the least to the most.**

- o **Fill 4 jugs with different levels of water. Ask the following: Look at the jugs. Which jug has the most water in it? Which jug has the least water in it? Pour out the water and measure in a measuring cup and see whose estimation was the closest.**

- o **Show the learners a teaspoon and a 250ml measuring cup. Let them estimate how many teaspoons of water will fill the measuring cup. Each child draws the spoons (estimated number). Now measure by filling the cup with water, spoon by spoon. The learners draw the spoons (actual number) and then work out how many spoons did they estimate to little or too much.**

- o ***FAT 2 : Practical in small groups*** *Learners are given 5 containers. They estimate and then measure how many cups of water each container holds. They then order the containers from the biggest to the smallest capacity. PRACTICAL - RUBRIC*

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, 150 square jigsaw, empty number grid, cardboard, scissors, fish template, paper clip, fishing line/fishing rod, magnet, crown, chair as throne, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, cards with numbers, 36piece puzzle, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, set of cards with sums and set of cards with the answer to the sums (snap cards), apple or picture of an apple, knife, flash card with ½ / half on it, cardboard square, flash card with ¼ / quarter on it, A4 sheet of paper, picture of cake or real cake, 2D shapes (triangles, squares, rectangles, circles), 3D objects (boxes, balls, cylinders, spheres), flash cards of 2D shapes and 3D objects, flash cards pictures of 2D shapes and 3D objects, calendar, analogue clocks, container for measuring capacity (cups, spoons, mugs, jugs, 2L bottles, teaspoon, 250ml cup)

REFLECTIONS:

BARRIERS:

WEEK 6

TERM 3   WEEK 6
LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS
LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200
AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits

    8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

    8.3 Estimation.

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA
AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Learners describe a given/own pattern in the number range 0 – 120. Eg. 17 27 37 …

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 3: Calculates elapsed time in:
    3.1 hours and minutes using clock
    3.2 days, weeks and months using calendars.

AS 6: Estimates, measures, compares and orders three-dimensional objects using non-standard measures:
    Mass (bricks, sand, bags) capacity (spoons, cups) length (hand spans, foorsteps)

<u>LO 1</u>
AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 100**

o **Count out beads, sticks, beans, stones, blocks to at least 100.**

o **Give a number of objects to a learner, eg. 96 beans that were counted out by the teacher beforehand. The learner counts it out and see whether he/she gets the same answer.**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. Eg. 178, 179, 180, …. …., 167, 168, 169, … …, Learners count in 1's from any given number. Begin at 181, count on to 200. Begin at 200, count back to 166.**

o **Each learner in the group receives 20 cards with numbers on. They pile the cards on the mat, in the correct order in heaps of ten. The first learner will say: I have 0, who has the next number. The next child will say: I have 1, who has the next number. The put their cards on top of each other, until they get to 10. The next card (11) will go in the second heap. The first child to have packed out all his/her cards, is the winner.**

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. Eg. 90, 100, 110,… …, 200, 190, 180,… ….**

o **Let the learners count using an empty number grid/peg board. Find the number 100. Count on in 10's. Stop at 200. Count back in 10's, start at 200 to 80. Put a peg in at each multiple of 10, or colour the block in (multiple of 10).**

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 115, 120, 125, … … 140, 135, 130, …. ….**

o **Each learner gets a set of numbers (multiples of 5). They must pack the numbers out in the correct order as quickly as possible. The first one to finish correctly is the winner. Also do this with counting backwards.**

AS 2.4

o **Learners count forwards and backwards in twos in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 138, 140, 142, … … 150, 148, 146, … ….**

o **Let the learners use a tape measure and count in 2's. Tell them, put your finger on 78cm and count on in 2's. Now count backwards, starting at 150cm, and end at 98cm**

AS 6

o Divided the learners on the mat in groups of two. Give each group a piece of an advertisement from a food store, a dice and play or real money for each child. The first learner throws the dice and moves from left to right on the advertisement page – from item to item. The last item that he/she lands on, is the item that he/she buys. He/she must read the amount and pay from the money he/she has. When all the items have been purchased, the game has been completed and the player with the goods to the highest value wins.

o Place coins on the mat like steps. At the end of these steps there is a throne with a crown on. The learners can only become king if they can climb all the steps to the throne. To be able to climb the steps, they must add the value of the coins together, Eg. 20c   50c   28c. If the learner adds correctly (98c) he/she can sit on the throne until the next learner answers correctly.

o Give two learners in the group a bag with coins. They must sort the coins according to value and then count the money. The must write everything down, Eg. 6 20c coins = R1,20; 4 50c coins = R2,00; 8 10c coins = 80c. Now the amounts must be added together. The team who gets to the correct answer first, is the winning team.

o The aunty at the tuck shop bought sweets for R15,50; colddrinks for R22,50; pies for R50 and chips for R10,20. How much did she have to pay for everything? She paid with R100. What change did she get?

AS 7

o Learners solve and explain solutions to practical problems involving equal sharing and grouping where the remainder is a fraction (e.g. ¼) in the number range 0 – 99. Learners may use concrete apparatus or drawings. Eg. Share 25 sausages amongst 4 children. If there are 12 marbles in a bag, how many marbles will there be in 3 bags?

o Give an orange to 2 learners in the group. Let them share it equally (1/2 each). Before they can eat it, share each child's half again, in order for four learners to get a piece each (1/4). Discuss 2 parts of a whole is ½ and 4 parts of a whole is ¼

o Give each child 12 jelly baby sweets. Divide it amongst 4 (teacher and learners). Each person will get 3 sweets. Now eat 3 of the sweets. How many sweets are left? Divide these sweets amongst 4 (teacher and learners). Each person will now get 2 sweets and 1 will be left over. What can I do to share it equally? Cut it in quarters. Give one quarter to the teacher and the other quarters to the 3 learners. Each person got 2 ¼ sweets.

AS 8.1

o Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 99. Learners may use a number square or a number line. Eg. 87 + 10   75– 10
$58 + 5 = 58 + 2 + \_\_$

o Use a flow diagram where the initial number has been filled in. Subtract 20 from each number.
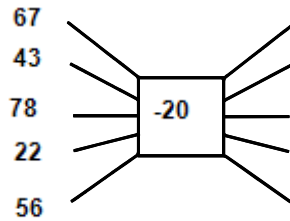
Eg.

```
67
43
78    -20
22
56
```

This activity can be used for addition and subtraction with whole tens.

o **Let the learners take a group of 5 tens & 3 ones and a group of 2 tens. They can use counters (some in groups of 10 and the rest ones). Find the *sum* of the counters.**
   Eg. 53 + 20 =
      50 + 3 + 20
      50 + 20 = 70
      70 + 3 = 73

o **Building on prior knowledge of small number combinations (strategies), learners now apply this knowledge to their "tens".**
   eg. If 2 + 1 = 3 : what will   20 + 10 equal …..(30)

  AS 8.2

o **Learners count forward on counting block or number grid, in multiples of 3,,4,6,7,8 and 9 in the number range 0 – 50, as <u>preparation for multiplication.</u>**

o **Learners calculate the multiplication of 1-digit by 1-digit numbers with solutions to at least 50. Learners may use counters, drawing or number grid. Eg. 6x6 =   4 x 7 =**

o **Give each group in the class a plan of a flower garden. Discuss what they see. Ask them to discuss or calculate the number of flowers in the garden.**

1 row x 3 flowers = 3

2 rows x 3 flowers = 6

3 rows x 3 flowers = 9

  Learners now write down: 3 + 3 + 3 = 9 or 3 x 3 = 9
 **Now they can solve other problems using the above as a guideline.**

o **Solve this problem:**
   If 12 children each collect 4 plastic bags for recycling, how many do they collect altogether?

  AS 8.3

o **Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's**

AS 9.1

o Learners perform mental calculations involving addition and subtraction in the number range 0 – 18. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 14 + 4 – 3 = __   18 – 8 = __
Addition and subtraction of single- digit numbers in the number range 0 – 20 with more than one operation.

7
9
8
$+7$ -4
11
10
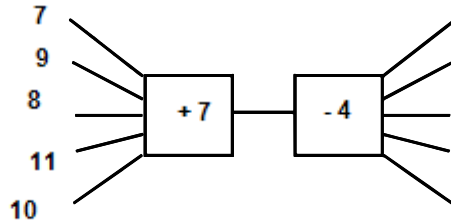
Do the same type of activity with minus and plus only

AS 9.2

o Learners perform mental calculations with multiplication with answers to at least 18. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 5 x 3 = __ 2 x 9 = __

o Multiplication of 4. Learners do a worksheet, or a activity on the mat.

x 4

5	3	4	1	2	0
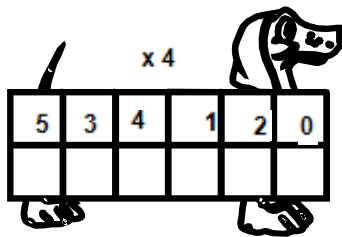
AS 10.1

o Learners break down and build up numbers in the number range 0-99 and may use a number grid and a number line.

o Learners build up numbers in the number range 0 – 99. Learners may use counters, drawings, number grid, flard cards or a number line. Eg. build 67, use only 4 numbers (40 + 20 + 4 + 3), or build 67, start with 30 + ___ + _____ = 67 Write the sums down in the mat books.

o Look at the numbers on the mat and find the two numbers (tens and ones) that will make the following:
46
97
24

90		5	9
2	40	7	20
4	10	6	70
8	80	1	60

Build the numbers and write it in your mat book Eg. 40 + 6 = 46 or   46 = 40 + 6
Now take the numbers that were left over and build your own, new numbers. Write it down.

o   **Learners break down numbers in the number range 0 – 99. Learners may use counters, drawings, number grid or a number line. Eg. (65 = 60 + 5 or   65 = 40 + 20 + 4 + 1)**

o   **Look at the numbers on the carts. Break the numbers down in tens and ones and write it in the wheels of the carts. Eg.   94 = 90 + 4**

AS 10.2

o   **Learners double numbers with answers in the number range 0 – 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. Eg. double 43   double 37.**

o   **Learners take off their socks. Ask 1 learner to hold up one of the socks. Ask the class how many socks they can see and can they <u>double</u> that number? The learner picks up his other sock. A second learner goes to the front with his pair of socks. Both learners hold up one of their socks (2). Ask the class what is double 2? Both learners pick up their second sock to show the double of 2. The class counts in 2's as the next learner point to the pairs of socks. How can we write this?   1 + 1 = 2   2 + 2 = 4 etc. Continue to 99. Ask What is double 4? What is double 40, etc. Encourage the learners to notice the patterns**

o   **Flash a card with a number not bigger than 49. Ask the learner to double the number. If correct, the learner gets a bottle top. The learner writes the sum in his/her mat book. The learner with the most bottle tops will be declared the winner.**

o   **Learners halve numbers without a remainder (even numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg. halve 92**

o   **Place numbers (even) in the number range 0 – 99 in a circle on the mat. The teacher plays, or sings a song while the learners move clockwise in the circle. When the music stops, the learners must halve the number that they are standing next to. Repeat exercise a few times.**

o   **Ask a learner to give you an even number. Ask another learner to halve the number. The rest of the group writes down the answer and checks whether the learner's answer was correct.**

o   **Learners halve numbers with a remainder (odd numbers) in the number range 0 -99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 67 halve 83**

o   **Play the fishing game with odd numbers – the learner catches a fish, halves the number and writes it down. If correct, he/she may keep the fish. The learner who caught the most fish will be the winner.**

AS 10.3

o   **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.**

AS   10.4

o   **Number line: - Integrate with all number work**

AS   11

o   **Learners explain solution to problems in the number range 0 –99**

AS   12

o   **Learners check each other's solutions to problems in the number range 0 – 99**

LO 2

AS 2

o   **Copies and extends simple number sequences to at least 140. Learners may use an abacus, number grid or a number line.**

o   **The learners work in pairs. Each learner receives a section of the 100-chart which he/she uses to make a number chart puzzle. One learner cuts up his/her chart into rows, the other into columns. They shuffle their pieces and build the charts up again. They shuffle them again and build each other's charts.**

51	52	53	54	55	56	57	58	59	60

3
13
23
33
43
53

o   **Play a pattern game in groups. Each group receives an A4 piece of paper and a dice. Give the groups the starting number, ie 18. The first learner throws the dice and whatever number it lands on, is the addend (number to be added), for example: 18 + 3 = 21. The learner writes the sum on the paper. The paper is then passed to the next learner who adds on 3 and writes the new total (train sum), 18 + 3 = 21 + 3 = 24. This continues around the group. When each learner has had a turn, a new learner decides the starting number and rolls the dice to find which number must be added on.**

AS 3

o **Creates own patterns. Learners create their own number patterns in the number range 0 – 140. Learners may use a number grid or a number line.**

o **Creates own patterns in mat book. Explain it to a friend**
Eg 99 104 109 114 …. …. …. ….. (adding on 5)
140 135 130 125 ….. ….(counting backwards in 5's)

AS 4

Learners describe a given/own pattern Eg. Learners create their own patterns and then discuss it with the group.

Eg. 17 27 37 47

123 124 125 126

LO 4

AS 1

Reads and writes analogue and digital clock time in terms of hours and minutes
Learners complete a worksheet by filling in the correct time. Use a model clock to do it physically before the worksheet is completed. Eg.

9 o' clock   25 minutes past 4   10 minutes to 1

AS 2

o **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar. Answer questions like: How many months in a year? Which is the first month? Which month comes before September? Which is the 10th month?. How many days in a week? How many days in a working week?**

AS 3.1

o **Calculate elapsed time in: hours and minutes using clocks**

o **Learners answer the following questions and show or fill in on a worksheet: <u>Remember to do counting in 5's before you start.</u>**
How many minutes is it from 5 o'clock to twenty past 5? How many minutes is it from 3 o'clock to ten past 3? How many minutes is it from 11'clock to twenty to twelve?

 AS 3.2

o **Calculates elapsed time in: days, weeks and months using calendar.**

o **Use the class calendar to determine which month will it be next, which month is after September, what day will September end on? Etc.**

AS 6

o **Learners estimate and measure the capacity of different containers. Learners can use cups. Spoons, mugs. Eg. How many spoons/cups do I use to fill up a 2L bottle?**

o **Learners bring containers to school – different sizes and shapes, such as mug, bottle, tin, jug. Learners compare the capacity of these containers and order the objects from the most to the least and the least to the most.**

o **Fill 4 jugs with different level of water. Ask the following: "Look at the jugs. Which jug has the most water in it? Which jug has the least water in it? Pour out the water and measure in a measuring cup and see whose estimations was the closest.**

o **Show the learners a 250ml measuring cup and a 2L Coke bottle. Let them estimate how many cups of water will fill the 2L bottle. Each child draws the cups (estimated number). Now measure by filling the bottle with water, cup by cup. The learners draw the cups (actual number) and then work out how many cups did they estimate too little or too much.**

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, 20 cards per learner in group with numbers on, peg board, empty number grid, cardboard, scissors, fish template, paper clip, fishing line/fishing rod, magnet, crown, chair as throne, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, cards with multiples of 5 on, tape measure, magazines, skittles or empty plastic bottles, ball, 100 number chart cut up into rows and columns, A4 piece of paper, advertisements from a food store, dice, worksheets, cards with numbers, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, sausages or pictures of sausages, knife, marbles, oranges, pictures of oranges, 6 jelly baby sweets per learner, flash card with ½ / half on it, flash card with ¼ / quarter on it, plan of a flower garden, socks of learners, or paper socks, CD player and CD, or piano, calendar, analogue clocks, container for measuring capacity (cups, spoons, mugs, 2L bottles, tin, jug, 250ml cup)

_____

REFLECTIONS:

BARRIERS:

WEEK 7

TERM 3   WEEK 7
LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS
LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200

AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers
    4.2 Common fractions including halves and quarters (½ , ¼)

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits

    8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

    8.3 Estimation.

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20
    9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
    10.1 Building up and breaking down numbers
    10.2 Doubling and halving
    10.3 Using concrete apparatus
    10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Describes own patterns

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names 2D shapes and 3D objects in the environment and in pictures including:
    Boxes (prisms), balls (spheres), cylinders triangles, squares and rectangles circles

AS 5: Recognises 3D objects from different positions

AS 7: Describes positional relationships (alone and/or as a member of a group or team) between 3D objects or self and a peer

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 2: Names in order the days of the week and the months of the year.

AS 3:   Calculates elapsed time in:
   3.1 hours and minutes using clock
   3.2 days, weeks and months using calendars.

AS 6: Estimates, measures, compares and orders 3D objects using non-standard measures: mass, capacity, length

LEARNING OUTCOME 5 – DATA HANDLING

AS 1: Collects data (alone and/or as a member of a group or team) in the classroom and school environment to answer questions posed by the teacher Eg. How many learners are there in each classroom?

AS 2: Sorts physical objects according to one attribute chosen by the teacher

AS 4: Draws pictures and constructs pictographs that have a 1-1 correspondence between own data and representations

<u>LO 1</u>

AS 1

o   **Learners count physical objects using one-to-one correspondence in the number range 0 – 100**

o   **Count out beads, sticks, beans, stones, blocks to at least 100.**

o   **Give a number of objects to the learners, eg. 97 beans that were counted out by the teacher beforehand. They count it out and see whether they get the same answer**

AS 2.1

o   **Learners count forwards and backwards in ones in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. eg. 169, 170, 171…. ….,   192, 191; 190; … …, Learners count in 1's from any given number. Begin at 154, count on to 189. Begin at 190, count back to 157.**

o   **In groups, each learner receives a number jigsaw. The learner starts with the large piece of puzzle and completes the jigsaw by adding all the other numbers.**
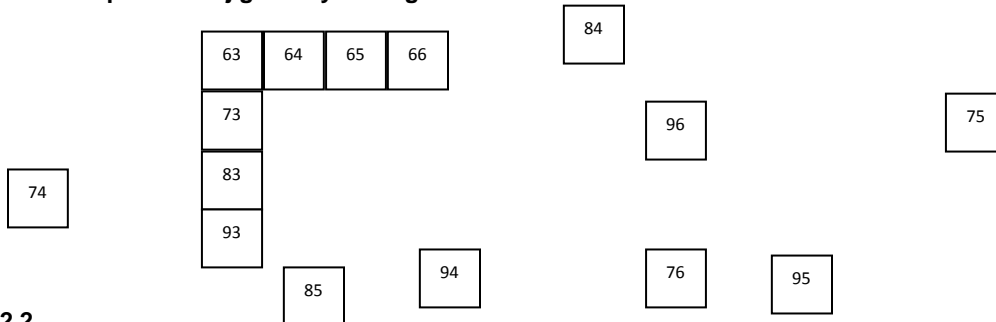
AS 2.2

o   **Learners count forwards and backwards in tens in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. eg. 90, 100, 110, … …,   200, 190, 180,… ….**

o   **Let the learners count using their own abacus or number grid. The teacher asks the following questions eg. show me number 140. Count on in 10's. Stop at 200. Count back in 10's, start at 130 to 20.**

AS 2.3

o   **Learners count forwards and backwards in fives in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. eg. 95, 100, 105, … …   150, 145, 140, …. ….**

o   **The learners work in small groups. They identify a "starting number" which is a multiple of 5 and smaller than 150. Another group member requests them to count on in fives. They count out the number of counters they were requested to count on, group them in groups of five, and then start at the "starting number" and count on in fives.**

- They do the same with multiples of 2 and 10.

- Worksheet: a number of jackets with 5 buttons – learners must count the jacket and then the buttons.

AS 2.4

- Learners count forwards and backwards in twos in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. eg. 116, 118, 120, … …   146, 144, 142, … ….

- Let the learners count using their fingers, an abacus or a number grid. Show me…. Or on which finger would I find number 52. Count on in 2's. Stop at 108. Count back in 2's. Start at 138 to 50.

AS 3

- Learners read any number symbol in the number range 1 – 150. The learners read the symbols on number cards, a number grid or a number line. eg. 43   101

- Teacher places number cards in a pile face down on the carpet. The learners each have a turn to turn one over. The teacher asks questions: eg
  - what is the number after eg. thirty-five?
  - what is the number before ___?
  - what is the number one/two/five/ten more than ___?
  - what is the number two/four/ten less than ___? etc

  Repeat using these pairs of numbers:

  Now the learners turn over two cards. The teacher asks:
  - what numbers are between eg eighty-three and ninety-six?
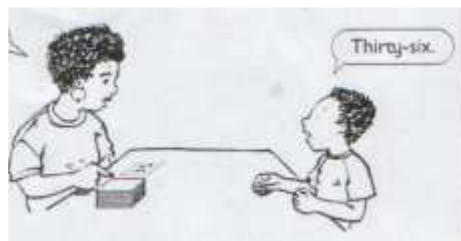
- Learners write any number name in the number range 1 - 100 eg. 49 forty-nine;   94 ninety-four

- Use a number of skittles (plastic bottles). Place a number or number name under each skittle. Roll the ball and read and write all the skittles that were rolled over. The numbers can also be added together and the person with the highest number wins.

AS 4.1

- Work in the number range 0 – 99 . Scatter number cards face down on the carpet or table. Teacher asks learners to turn over three cards. She says:
  - Tell me your numbers
  - Show me the largest number. Sequence the numbers from biggest to smallest.

- **Repeat with different sets of three cards, sometimes asking for the smallest number and then sequencing from the smallest to the biggest.**
- **Learners can combine their cards with a partner and then repeat the process.**

o **Use an old puzzle with 10 – 12 pieces. On the back of each piece, put a number. The learner puts all the pieces upside down and builds the puzzle according to numbers in ascending or descending order. Once finished, the puzzle is built and the learners can admire the picture.**

AS 4.2

o **Common fractions including halves and quarters**

o **Three friends want to share eleven sausages equally. How must they do this?**
Ensure that the learners draw their answers and explain their answers to their peers.

o **If there are 21 marbles in a bag, how many will there be in 3 bags?**

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 99. Learners may use flard cards. eg. 10 (10 or 1 ten) 81 1 or 1 one)**

o **ask them to pack out the following numbers with the flard cards:**
- **number 16, now change it to 61 and then to 68;**
- **number 78 and to change it to 87;**
- **number 55, then say: plus 4 (the learners change the 55 to show the answer 59), then tell them to plus 5, minus 10, etc.;**

AS 6

o **Learners solve money problems in the number range 0 – 89 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R6,30 R23,95.**
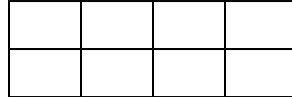**Learners calculate addition and subtraction sums: R51 + R22 – R17 =** ☐

o **Fill in the missing coins to make R1,00**
20c + 50c + 20c + ___ = R1,00
50c + 10c + 10c + 10c + ___ = R1,00
**20c + 20c + 20c + 20c + ___ + ___ = R1,00**

o   **Granny gave me R90,00 to spend on groceries and I returned with R23,40 change. How much did I spend on her groceries?**
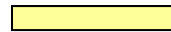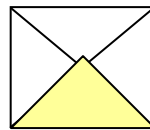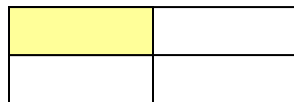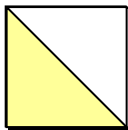
AS 7

o   **Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)**

o   **Draw the following slabs of chocolate in your book.**

o   **Colour in ½ of these two slabs of chocolate in two different ways.**
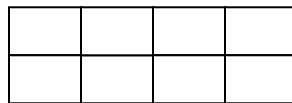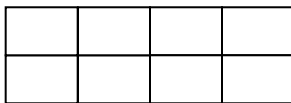
o   **Colour in ¼ of these two slabs of chocolate in two different ways.**

o   **Which fraction of each of the following shapes is shaded?**

AS 8.1

o   **Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 99. Learners may use a number square or a number line. eg. 41 + 10;   89 – 10;**

o   **Game: Adding multiples of 10.   TARGET 100**
Two players take turns to start at zero. Each player must add 10, 20 or 30 to the other player's total. The player to reach Target 100 earns one point. The winner is the first player to earn five points.
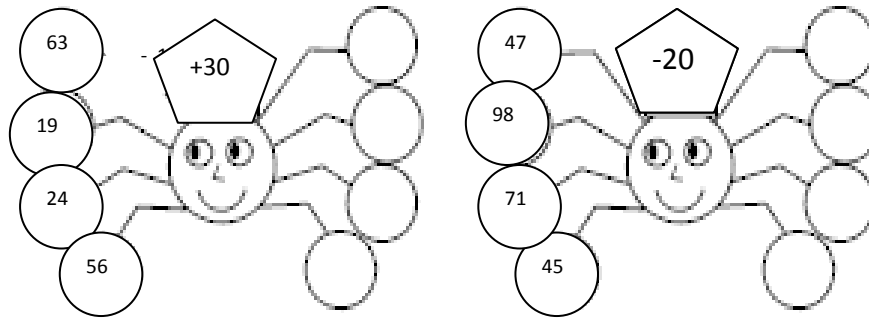 **eg. Player one: zero and ten make ten.   Player two: ten and twenty make thirty.**
   Player one: thirty and thirty make sixty.   Player two: sixty and thirty make ninety.
   Player one: ninety and ten make one hundred.

o   **This number strip can be used to keep track of the game:-**

10	20	30	40	50	60	70	80	90	100

63		+30		
19				
24				
56				

47		-20		
98				
71				
45				

- o There are 70 sweets in a packet. 30 get eaten. How many sweets are left?
- o There are 40 ducks on a farm. The farmer buys another 50 but 20 die. How many ducks does the farmer have now?

AS 8.2 multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50

- o The learners listen to a problem that the teacher poses and suggest ways of solving it. eg.
  If I have three flower beds with four flowers in each bed. How many flowers will I have growing in my flower beds?

✹✹✹✹ **+** ✹✹✹✹ **+** ✹✹✹✹

4+4+4   3 groups of 4   4x3= 12 (4 must be added 3 times)
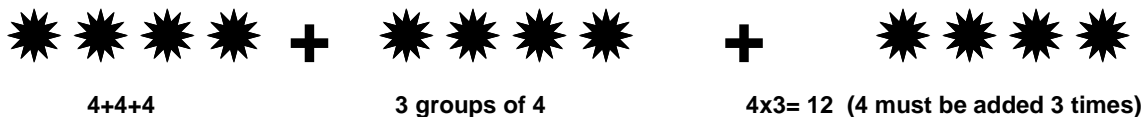
- o Solve this problem:
  A strawberry patch has five rows with an equal number of plants in each row. If there are thirty plants altogether, how many plants are there in each row?

AS 8.3

- o Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's

AS 9.1

- o Learners perform mental calculations involving addition and subtraction in the number range 0 – 18. Teachers use flashcards with the number symbols to represent the number combinations.
  eg. 18 – 5 + 2= __   18 – 4 = __   Addition and subtraction of single-digit numbers in the number range 0 – 18 with more than one operation.

- o Game: Material: 2 sets of cards 0 to 12, two dice
  The learners play in pairs. Each arranges a set of cards, in number order, face up on the table. They throw the dice in turn, add the scores and turn the card with matching total face down., The winner is the first to have all their cards face down.
  This game is varied by finding the difference between the scores

- o Addition snap.
  This game is played in pairs. Each pair is given two sets of digit cards (0 – 10). Each person takes one set, shuffles them and places them face down on the table. Each person turns their top card

over simultaneously. The numbers on the cards are then added together. The first person to say the correct answer and explain to their partner why it is correct wins the two cards. Play continues until all the cards have been played. The player with the most cards wins.
Players can also explain the subtraction concept eg. if 3 and 6 make 9 then 9 – 3 = 6 etc

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 20. The teacher uses flash cards with number symbols to represent the multiplication calculations. eg. 4x5 = __ ; 1 x 8 = __;   7x2=**

AS 10.1

o **Learners break down and build up numbers in the number range 0-99 and may use a counters, drawings, flard cards, number grid and a number line.**
eg. (89 = 70 + 10 + 9 or   89 = 80 + 1 + 3 + 5)

o **Learners build up numbers in the number range 0 – 99. Learners may use counters, drawings, number grid or a number line eg. 60 + 30 + 5 + 2 = 97   or   50 + 20 + 20 + 5 + 2   or   90 + 7 = 97**

AS 10.2

o **Learners double numbers with answers in the number range 0 - 99.   Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. eg. double 26 double 37.**

o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   eg. halve 86**

o **Learners halve numbers with a remainder (odd numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 47 halve 13**

Double: The following pictures will help you.

o **How many fingers do 4 hands have? _____**

o **How many fingers do 8 hands have? _____**

o **How many points does 1 star have? _____ and 2 stars? _____**

o **How many points do 3 stars have?   _____**

o **How many points do 6 stars have?   _____ and 12 stars? _____**

o **How many eyes do 8 boys have?   _____**

o **How many eyes do 16 boys have?   _____**

AS 10.3

o **Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.**

AS 10.4

o **Number line: - Integrate with all number work**
First to eg sixty:
Each pair needs a number line(from eg. 40 to 60) and two counters (different colours), one for each person. The learners take turns to throw a dice and move their counter the correct number of spaces. You can ask the learners to predict what number they will land on before moving their counter. They should explain their prediction to their peer. The first learner to eg. 60, wins the game.

AS 11

o **Learners explain solution to problems in the number range 0 – 99**

AS 12

o **Learners check each other's solutions to problems in the number range 0 – 99**

LO 2

AS 2

o **Copies and extends simple number sequences to at least 150**

o **The learners work in pairs. Each learner receives a section of the 100-chart which he/she uses to make a number chart puzzle. One learner cuts up his/her chart into rows, the other into columns. They shuffle their pieces and build the charts up again. They shuffle them again and build each others charts.**

107	108	109	110	111	112

98
108
118
128
148

o **Give learners a worksheet which they have to complete**
eg. 105 107 108 …. …. …..;   105 110 … … …;

AS 3:

o **Creates own patterns**

o **Creates own patterns. Explain it to a friend**
eg. 96 100 104 111 …. …. …. ….. (adding on 4)
115 110 105 ….. ….(counting back in 5's)

AS 4:

o **Learners describe a given/own pattern eg.**

85		91		103	

Fill in the missing numbers and describe the pattern.

LO 3

AS 1

o **Learners recognise, identify and name 2D-shapes and 3D -objects in the environment and in pictures. eg. 3D objects: boxes, balls, cylinders   2D-shapes: triangles, squares, rectangles, circle.**

AS 5
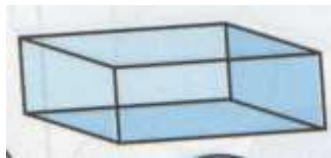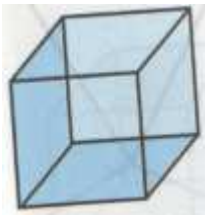
o **Learners recognize and describe 3D objects from different positions eg. from the top, from the side, from the bottom**

o **In the classroom, the learners name an object which is above the door, behind the desk, between the window and the sink etc.**

AS 7

o **Learners recognize and describe 3D objects from different positions eg. from the top, from the side, from the bottom**

LO 4.

AS 1

o **Reads analogue and digital clock time in hours and minutes.**

AS 2

o   **Names in order the days of the week and the months of the year.**

AS 3.1

o   **Calculates elapsed time in hours and minutes using clocks**

AS 3.2

o   **Calculates elapsed time in days, week and months using calendars**

AS 6

o   **Estimates, measures, compares and orders three-dimensional objects using non-standard measures:**

o   **Capacity (eg. spoons, cups)**

Learners estimate and measure the capacity of different containers. Learners use cups, spoons, mugs….   eg How many spoons/cups do I use to fill up a 1 litre bottle?

LO 5

AS 1

o   **Learners collect data in the classroom and school environment according to one attribute**

eg: They collect all the containers that hold more than a litre, those that hold about a litre and those that hold less than a litre. They answer questions about the collection.
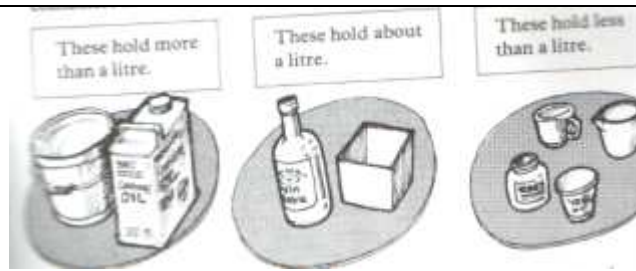
These hold more than a litre.

These hold about a litre.

These hold less than a litre.

AS 2

o **Learners sort physical objects according to one attribute. Learners may use pictures or drawings to represent the real objects.**

o **They look in magazines and cut out all the pictures of objects that can hold a liquid eg dishwashing liquid bottles, buckets, glasses, jugs, egg cups, teapots, kettles etc**

AS 4

o **Draws pictures and constructs pictographs that have a 1-1 correspondence between own data and representation. eg. Learners fill in a graph showing how many tins, pots, jugs, bottles, mugs and glasses fill a 5 liter bucket.**
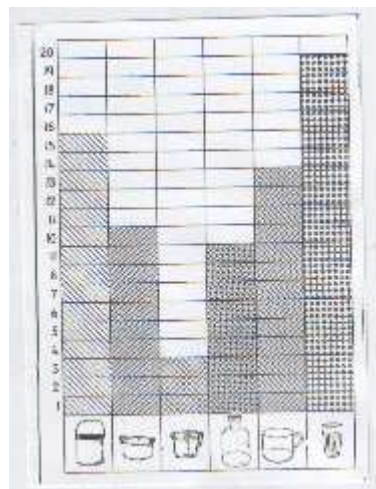
RESOURCES:

Counters, abacus, number grids, number line, clocks, calendars, flard cards, pictures, 2-D and 3-D shapes, play-money, paper, scissors, crayons, pencils, glue, exercise books, flash cards, body parts, pictures, fraction cards, number cards, game, containers for measuring

REFLECTIONS:

BARRIERS:

WEEK 8

TERM 3   WEEK 8
LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS
LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200

AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
   4.1 Whole numbers to at least 2-digit numbers
   4.2 Common fractions including halves and quarters (½ , ¼)

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers
AS 6: Solves money problems involving totals and change in rand's and cents.

AS 7:Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
   8.1 Addition and subtraction of whole numbers with at least 2 digits

   8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

   8.3 Estimation.

AS 9: Performs mental calculations involving:
   9.1 Addition and subtraction for numbers to at least 20
   9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
   10.1 Building up and breaking down numbers
   10.2 Doubling and halving
   10.3 Using concrete apparatus
   10.4 Number lines

AS 11: Explains own solutions to problems
AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Learners describe a given/own pattern in the number range 0 – 120. Eg. 17 27 37 …

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names 2D shapes and 3D objects in the environment and in pictures including:
   Boxes (prisms), balls (spheres), cylinders triangles, squares and rectangles circles

AS: 5: Recognises 3D objects from different positions
AS 6: Positions self within the classroom or 3D objects in relation to each other

AS 7: Describes positional relationships (alone and/or as a member of a group or team) between 3D objects or self and a peer

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

AS 2: Names in order the days of the week and the months of the year.

AS 3: Calculates elapsed time in:
   3.1 hours and minutes using clock
   3.2 days, weeks and months using calendars.

AS 6: Estimates, measures, compares and orders 3D objects using non standard measures: Mass (bricks, snad, bags), capacity (spoons, cups), length (hand spans, footsteps)

LEARNING OUTCOME 5 – DATA HANDLING

AS 1: Collects data (alone and/or as a member of a group or team) in the classroom and school environment to answer questions posed by the teacher Eg. How many learners are there in each classroom?

AS 2: Sorts physical objects according to one attribute chosen by the teacher

AS 4: Draws pictures and constructs pictographs that have a 1-1 correspondence between own data and representations

AS 5: Describers own or a peer's collection of objects, explains how it was sorted, and answers questions about it.

GRADE 2 LESSON PLAN – TERM 3: WEEK 8

LO 1

AS 1

o **Learners count physical objects using one-to-one correspondence in the number range 0 – 100**
o **Count out beads, sticks, beans, stones, blocks to at least 100.**
o **The learners work in pairs with small counters eg beans. They put a handful of counters down and estimate the number. They then count and lastly determine the difference between the exact number and the estimated number by counting.**

_____

AS 2.1
o **Learners count forwards and backwards in ones in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. eg. 164, 165, 166,…. 138, 139, 140, … …, Learners count in 1's from any given number. Begin at 153, count on to 180 and then back to 167.**

o **Game: Divide the class into groups of 5 learners or more, depending on the number of bean bags that are available. They play the game simultaneously outside.**
o *Pass* the *beanbag:*
Learners sit on their haunches in a circle, fairly close to each other. Each learner holds a bean bag. They start passing the bean bags at the same time. They decide beforehand how many times they will pass them to the right or left. They count while they pass the ball 101, 102, 103, 104, 105, 106…(6 times to the left), then 107, 108, 109, 110, 111, 112 (6 times to the right) and so on, until there is a build up of beanbags in front of one learner…..or until the flow of the bags stops. The game then starts again. A learner who misses passing his/her beanbag must sit out. Those who have fallen out, start their own game. The last two learners in the original group are the winners. The game can start at a different number each time.

o ***FAT 3: Written*** *Learners count forwards and backwards in ones from a given number on a worksheet in the number range* **0** *- 200. WRITTEN - RUBRIC*

AS 2.2
o **Learners count forwards and backwards in tens in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line.**
eg. 94, 104, 114, 124, 134,… …, …..   180, 170, 160, 150,… ….

| 91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

- Let the learners count using a number grid as above. Find the number 117. Count on in 10's. Stop at 177.
    Count back in 10'

- Let the learners count using a number grid. Find the number 117. Count on in 10's. Stop at 177. Count back in 10's, start at 159 to 99.

- *FAT 3: Written* *Learners count forwards and backwards in tens from a given multiple of ten on a worksheet in the number range 0 - 200.   WRITTEN - RUBRIC*

AS 2.3

- Learners count forwards and backwards in fives in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line.

    eg. 105, 110, 115, … …   150, 145, 140, …. ….

- Each learner receives a tiny packet containing cards with the multiples of 5. They sort these cards into the correct order. Their peers check that they have counted in fives correctly.
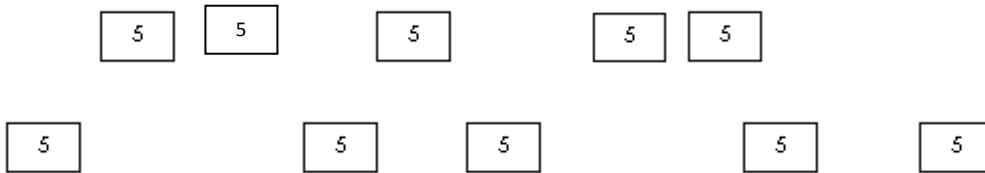
| 5 | 5 | 5 | 5 | 5 |

| 5 | 5 | 5 | 5 | 5 |

- *FAT 3: Written* *Learners count forwards and backwards in fives from a given multiple of five on a worksheet in the number range 0 – 150. WRITTEN - RUBRIC*

AS 2.4

- Learners count forwards and backwards in twos in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line.

    eg.   108, 110, 112, … …   150, 148, 146, … ….

- *FAT 3: Written* *Learners count forwards and backwards in twos from a given multiple of two on a worksheet in the number range 0 - 150.   WRITTEN – RUBRIC*

AS 3

- Learners read any number symbol in the number range 1 – 150. The learners read the symbols on number cards, a number grid or a number line. Eg. 98   121

- Learners learn the number names and symbols while counting from a number grid, an abacus, number grid or number line. Teacher says: "Find 81." .

o **Learners write any number name in the number range 0-100 .**

eg.   42 forty-two   93 ninety-three

o **Which number comes before 32? Write down the number name. Which numbers come between 47 and 44? Write down the number names.**

o **Use a number of bean bags. Place a number or number name under each bean bag. Throw another bean bag and if it lands on one of the bean bags, read its number or number name.   The numbers can also be added together and the person with the highest total wins.**

o *FAT 3:Written The learners write the number names and symbols of numbers in the number range 1 – 100. WRITTEN – RUBRIC*

AS 4.1

o **Cut up the numbers on a number grid 0 – 99.   Place these in a bag or box. Learners take five numbers each.**
These are placed vertically in ascending/descending order. Learners can count on or back in 1's, 2's, 5's or 10's from these numbers. They can add or subtract a given number from each number. The possibilities are endless and should be based on the ability of the learners.

o **Learners' numbers can be pasted vertically into their workbook in sequence, either from the biggest to the smallest or visa versa. They can add eg 5 more to each number, subtract 4, write the number names next to each number, before, after etc**

| Number	Number name	5 more	4 less	+ 10	before	after

o *FAT 3: Written Learners identify the biggest and the smallest number. Learners arrange the numbers from the biggest to the smallest or the smallest to the biggest.   Learners make number 5 more / 4 less etc. WRITTEN – RUBRIC*

AS 4.2

Common fractions including halves and quarters.

o **Learners work in a small group with the teacher. Make two large copies of the shapes. Shapes must be cut out. Spread the shapes out on the carpet in front of them. Ask one learner to take a shape.**

They explain what it is eg. a part of a whole circle. Invite the learners to search for another equal part to match it in order to make a whole circle. Encourage the learners to say what they have done. Ask questions such as the following: "How many parts make up the whole circle? Show me half of the whole. How many halves are in a whole? Are both these parts the same size? "

Select two parts which do not match. Ask "Can I match these two parts to make a whole object?" Encourage the learners to say that the parts must be equal in size. Ask the learners to match all the pairs. Encourage the use of the language of fractions as they work.

When all the halves are matched, get the learners to fold the halves in half and then to cut them. Ask "How many parts do we have now? (4) How many parts make up the whole shape? Show me a ¼ of the whole. How many quarters make a whole?

At the end of the activity, summarise what the learners did by emphasizing that there are two halves in a whole and four quarters in a whole, that these parts are equal in size and that a whole can be divided into two or four equal parts.
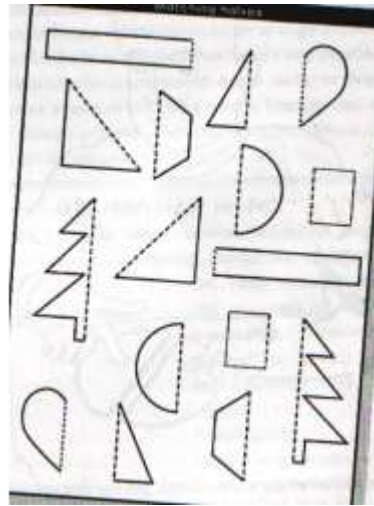
AS 5

o   **Learners identify the place value of a given digit in a number in the number range 0 – 99. Learners may use flard cards. Eg. (9_2_ is 90 or 9 tens)   (9_2_ is ☐ or ☐ ones)**

o   **ask them to pack out the following numbers with flard cards:**
  - **number 96. Now change it to 69;**
  - **number 97 and to change it to 22;**
  - **number 78, then say plus 2 (the learners add the 2 to the 78 to show that it can make 80), plus 4, minus 10, etc.;**

o   *FAT 3: WrittenThe learners identify the place value of a highlighted or underlined digit in the number range 0 – 99 on a worksheet   .Eg. 6_3_   60 or 6 tens 9_4_   4 or 4 ones (units) WRITTEN – RATING SCALE*

AS 6

o   **Learners solve money problems in the number range 0 – 99 using R1, R2, R5, R10, R20, R50, 5c, 10c, 20c, 50c. Learners may use play or real money. Eg. Learners pack out a given amount such as R12,25   R57,62**
Learners calculate addition and subtraction sums: R56 - R42 + R38 = ☐

o   **Produce some R1, R2, R5 coins and also R10, R20, and R50 notes(or copies). Discuss how much they are worth if learners have not worked with these denominations of the currency before. Select some items priced in rands from the class shop or shop advertising brochures.**
"Give" learners some money. Ask learners to choose an item from the shop/brochure and pay with the money. Discuss the concept of change. Ask them to work out the change they would get.
Let learners work in pairs. They should:
  - **Take an amount of money, choose an item, and work out how much change they should get.**
  - **Take an amount of money, choose two items, and work out how much change they should get.**
  - **Take an amount of money, choose three items, and work out how much change they should get.**
  Ask learners to talk about how they worked out how much change they should get.

o   **Mr Lakota sells his mielies at R12,50 a pocket. Mr Lakota needs to know the right amount to charge.**

o   **Help him to draw up a charge sheet.**

Number of pockets		Cost in Rands	
1	2	R12,50	R25,00
3	5		
6	9		

Help Mr Lekota to find the price of:-   5 pockets;   6 pockets;   9 pockets;   3 pockets


AS 7

o   **Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)**

o   **Learners solve a problem: Eight friends are visiting a farm. They are given ten apples and need to share them equally amongst themselves. How many apples will each person get?**

Learners need to show their calculations and explain their answers to their peers.

AS 8.1

o   **Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 99. Learners may use a number square or a number line. Eg. 82 + 10   95 – 20**

45
17
39   +20   +20   -10
40
53
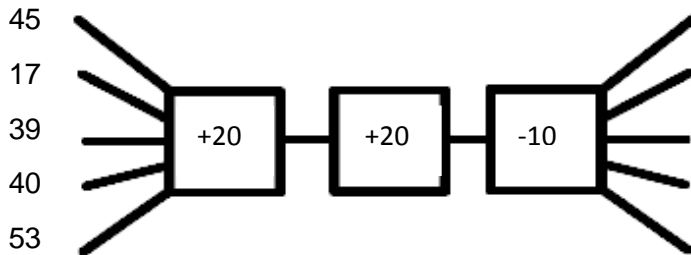
o   *FAT 3 : Practical in small groups/Written The teacher asks word problems involving addition and subtraction with 2-digit numbers in the number range 0 - 99. The learners solve the problems using counters, drawings or calculations, e.g.*
   - *38 boys play soccer on a Wednesday. 49 boys play soccer on a Thursday. How many more boys play soccer on a Thursday?*
   - *There are 52 learners in Grade 2. There are 39 glasses of cooldrink. How many more glasses of cooldrink does the teacher need for the learners?*
   HINT: The learners write their drawings or calculations in their class workbooks, on slates or white boards.
   PRACTICAL, ORAL AND WRITTEN – RUBRIC

AS 8.2

o   **Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50**

4   +   4   +   4   +   4   +   4   +   4   +   4   +   4

o   **Solve this problem: 8 dogs. How many legs?   And eyes?**
   They sit in groups of four but work in pairs. They solve word problems, draw their different ways of solving the problem and write a number sentence to determine the answer. They compare their answers and their ways of solving the problems with the other partner.

o   *FAT 3 : Practical in small groups/Written The teacher asks word problems in the number range 0 - 50. The learners solve the problems using counters, drawings or calculations, e.g. 6 bananas are each cut into 3 pieces. How many pieces are there? HINT: The learners write their drawings or calculations in their class workbooks, on slates or white boards.   ORAL, PRACTICAL AND WRITTEN - RUBRIC*

AS 8.3

o   **Learners estimate the answer to addition, subtraction and multiplication problems. Learners compare the calculated answer. Estimation should be used by the learners continuously throughout all the LO's.**

AS 9.1

o **The learners explore number 19. They**
 - **Write number 19, its number name and ordinal number**
 - **Make 19 movements (eg. clap, jump, whistle, snap fingers, nod heads etc) as they count aloud from 1 to 19**
 - **Group 19 counters in groups of 2, 3, 4, 5 and 10 and record each grouping eg.**

 4 fours   and   3 ones (left over)
 - **work in pairs and write the number families of number 19 eg.**

10 + 9	**9 + 10**	**19 – 10 = 9**	**19 – 9 = 10**
11 + 8	**8 + 11**	**19 – 11 = 8**	**19 – 8 = 11**
12 + 7	**7 + 12**	**19 – 12 = 7**	**19 – 7 = 12**

o **Learners perform mental calculations involving addition and subtraction in the number range 0 – 19. Teachers use flashcards with the number symbols to represent the number combinations.**

 eg. 13 + 6= __ ;   17 – 4 = __ ; 14 + 5 – 3 =___
 Addition and subtraction of single-digit numbers in the number range 0 – 19 with more than one operation.

o **F***AT 3: Written Mental maths: Addition and subtraction to 20. The teacher asks 20 sums. Learners write the answers down. WRITTEN – RATING SCALE*

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 20. The teacher uses flash cards with number symbols to represent the multiplication calculations.**
 eg. 5 x 3 = __   2 x 8 = __

o *FAT 3: Written   Mental maths: Multiplication of whole numbers with answers to at least 20. The teacher asks 10 sums. Learners write the answers down. WRITTEN – RATING SCALE*

AS 10.1

o **Learners break down and build up numbers in the number range 0-89 and may use a number grid and a number line. eg. (89 = 70 + 10 + 9 or   89 = 80 + 1 + 3 + 5) Learners build up numbers in the number range 0 – 89. Learners may use counters, drawings, number grid or a number line. Eg. (50 + 30 + 5 + 2 = 87)**

o **Workcard: building up numbers. Use only 50, 20, 10, 5, 2 and 1 to make your number below. You may use the same number more than once, Eg. 47 = 20 + 10 + 10 + 5 + 2**
 52 = _____
 29 = _____
 84 = _____
 17 = _____

AS 10.2

o **Learners double numbers with answers in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.**

 eg. double 26;   double 37.

o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg. halve 86**

- Learners halve numbers with a remainder (odd numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 47 halve 13

- *FAT 3: Practical in small groups/Written The learners halve numbers in the number range 1 - 99. The learners may use counters, drawings or the number line. HINT: The learners write their drawings or calculations in their class workbooks, on slates or white boards. PRACTICAL AND WRITTEN - RUBRIC*

AS 10.3

- Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.

AS 10.4

- Number line: - A similar activity to the one done in AS 4.1 but the learners must take the numbers they have chosen and plot them on the number line.

AS 11

- Learners explain solution to problems in the number range 0 – 99

AS 12

- Learners check each other's solutions to problems in the number range 0 – 99

LO 2

AS 2
- Copies and extends simple number sequences to at least 150

| 124	126		130			
112	122	132				

- Creates own patterns

- Give learners a worksheet which they have to complete
  eg. 105 107 108 …. …. …..;   105 110 … … …

- *FAT 3: Written Learners copy and complete a number pattern in the number range 0 -150 on a worksheet. WRITTEN - RUBRIC*

_____

AS 3:

- Creates own patterns

- Creates own patterns. Explain it to a friend
  eg   2, 7, 12, 17, 22, 27 …. …. …. ….. (counting/adding on 5)
       124, 134, 144, 154 ….. ….(counting in 10's starting at 124)

o **They may use buttons, beans, shapes or drawings.**
   e.g.
   ♥□☉�֍ ....
   ☺☺☺☺ ....
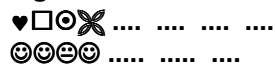
o *FAT 3 : Written Learners create their own number patterns in the number range 0 - 150. WRITTEN - RUBRIC*
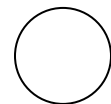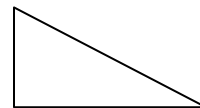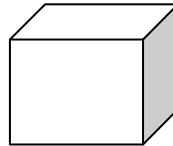
_____

AS 4:

o **Learners describe a given/own pattern eg.**

o **The learners work in pairs to observe and describe number sequences eg.**
   1, 3, 5, 7, 9,…….. odd numbers; counting in 2's, starting at 1
   1, 4, 7, 10, 13……start with 1; count on 3 each time

o **They study the completed number sentences and describe and report on the pattern they have observed.**
   14 + 2 = 16   64 + 5 = 69
   24 + 2 = 26   64 + 5 = 69
   34 + 2 = 36   64 + 5 = 69

o *FAT 3 : Practical in small groups. Learners describe their own or a given number patterns. PRACTICAL - RUBRIC*

LO 3

AS 1

o **Learners recognise, identify and name 2D-shapes and 3D -objects in the environment and in pictures.**
   eg. 3D objects: boxes, balls, cylinders   2D-shapes: triangles, squares, rectangles, circle.

AS 5

o **Learners recognise and describe 3D objects from different positions eg. from the top, from the side, from the bottom.**

AS 6
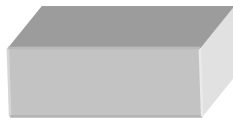
o **Learners position themselves and use vocabulary to explain position of self in comparison with other 3D objects. eg on, above, behind, in front of, under, next to, in between.**

LO 4

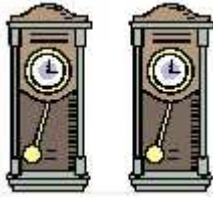**AS 1**

o   **Reads and writes analogue and digital clock time in terms of hours and minutes.**

AS 2

o   **Names in order the days of the week and the months of the year.**

AS 3

o   **Calculates elapsed time in hours and minutes using clock**

o   **Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar.**

AUGUST 2009

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

1. How many days in August? _____
2. How many school days in August? _____
3. How many Sundays in August? _____
4. How many public holidays in the month?
5. What is the next day after the 26th?
6. On what day does the 5th fall?
7. How many days from the 17th to the 29th August?
8. Write down the dates of all the Thursdays in this month.

AS 6.

o   **Learners estimate and measure the capacity of different containers. Learners use cups, spoons, mugs, etc.**

o **Learners compare the capacity of containers and order the containers from the containers that hold the most to the containers that hold the least.**

**Learners bring different boxes to school eg. toothpaste, cereal, jelly, biscuits etc
They compare them and estimate which box is largest, second largest and so on. Fill the boxes with ground/sand and compare them. Record the results.**

o *FAT 3: Written*
The learners are given a chart with different sizes of milk containers. Next to each container is indicated the number of glasses that will fill the container. The learners answer questions about the chart,
e.g. How many glasses does the big container hold? How many glasses does the smallest container hold, etc.? WRITTEN RUBRIC

LO 5.

AS 1

o **Learners collect data in the classroom and school environment according to one attribute. Learners answer questions about the collections.**

o *FAT 3 : Practical in small groups Learners use the data collected in LO 4. e.g. egg cups, cups, bottles, jugs, milk bottles, teapot et The teacher asks questions about the data collected, e.g. Which container holds the most? How many cups of water fill the milk bottle? A teapot holds how many full cups? PRACTICAL - RUBRIC*

AS 2

o **Learners sort physical objects according to one attribute. Learners may use pictures or drawing to**

represent the real objects.

o   *FAT 3: Practical in small groups. The learners sort the collected data into the different kinds of containers. PRACTICAL – RUBRIC*

AS 4
o   **Learners draw crosses or construct pictographs to show correspondence between collected data and representation. The pictograph can be done horizontally or vertically.**

o   *FAT 3: Learners draw a pictograph to represent the different kinds of containers WRITTEN – RUBRIC*

AS 5
o   **Learners describe, explain and answer questions about the graph.**

o   *FAT 3: Written Learners answer questions based on a graph. WRITTEN - RUBRIC*

HINT: Instead of using the containers used for capacity in LO 4., the teacher may use the idea of the vegetables as stated in the LAT document.

RESOURCES:

Counters, abacus, number grids, number line, clocks, calendars, flard cards, pictures, 2-D and 3-D shapes, play-money, paper, scissors, crayons, pencils, glue, exercise books, flash cards, body parts, pictures, fraction cards, number cards, game, containers for measuring, bean bags, dice.

REFLECTIONS:

BARRIERS TO LEARNING

WEEK 9

TERM 3   WEEK 9

LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200

AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
   4.1 Whole numbers to at least 2-digit numbers

AS 5: Recognizes the place value of digits whole numbers to at least 2-digit numbers

AS 6:Solves money problems involving totals and change in rand's and cents.

AS 7: Solves and explains solutions to practical problems that involve equal sharing and grouping and that lead to solutions that also include unitary fractions (e.g. ¼)

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
   8.1 Addition and subtraction of whole numbers with at least 2 digits

   8.2 Multiplication of whole 1-digit by 1-digit numbers with solutions to at least 50.

   8.3 Estimation.

AS 9: Performs mental calculations involving:
   9.1 Addition and subtraction for numbers to at least 20
   9.2 Learners perform mental calculations with multiplication with answers to at least 16. The teacher uses flashcards with number symbols to represent the multiplication calculations. Eg. 5 X 2   7 X 2   10 x 2

AS 10: Uses the following techniques:
   10.2 Doubling and halving
   10.3 Using concrete apparatus
   10.4 Number lines

AS 11: Explains own solutions to problems

AS 12: Checks the solution given to problems by peers

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 3: Creates own patterns

AS 4: Learners describe a given/own pattern in the number range 0 – 120. Eg. 17 27 37 …

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 1: Recognises, identifies and names 2D shapes and 3D objects in the environment and in pictures including: Boxes (prisms), balls (spheres), cylinders, triangles, squares, rectangles and circles.

LEARNING OUTCOME 4 – MEASUREMENT

AS 1: Reads and writes analogue and digital clock time in terms of hours and minutes

As 2: Names in order the days of the week and the months of the year

AS 3: Calculates elapsed time in:
  3.1 hours and minutes using clock
  3.2 days, weeks and months using calendars.

LEARNING OUTCOME 5 – DATA HANDLING

AS 1: Collects data (alone and/or as a member of a group or team) in the classroom and school environment to answer questions posed by the teacher. Eg. How many learners are there in each classroom?

AS 2: Sorts physical objects according to one attribute chosen by the teacher

AS 3: Gives reasons for collections being grouped in particular ways

AS 4: Draws pictures and constructs pictographs that have a 1-1 correspondence between own data and representations

AS 5: Describes own or peer's collection of objects, explains how it was sorted and answers questions about it

GRADE 2 LESSON PLAN – TERM 3 WEEK 9

LO 1

AS 1
o **Learners count physical objects using one-to-one correspondence in the number range 0 – 100**

o **Count out beads, sticks, beans, stones, blocks to at least 100.**

o **Give a number of objects to a learner, eg. 96 beans that were counted out by the teacher beforehand. The learner counts it out and see whether he/she gets the same answer.**

AS 2.1

o **Learners count forwards and backwards in ones in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. Eg. 178, 179, 180, …. …., 167, 168, 169, … …, Learners count in 1's from any given number. Begin at 181, count on to 200. Begin at 200, count back to 166.**

o **Play Bingo. Each learner receives a number chart in the number range 0 – 200. Some of the numbers have been left out (all the charts are different). The leader/teacher calls out a number on a card. The learner who has this number missing, shouts" me" and the card is given to the learner. The learner puts the card in the correct space and in this way builds up his/her chart. The learner whose chart is completed first, shouts "bingo" and is then declared the winner.**

AS 2.2

o **Learners count forwards and backwards in tens in the number range 0 – 200. The learners may use counters, an abacus, number grid or number line. Eg. 170, 180, ,… …, 200, 190, 180,… ….**

o **Make dices with multiples of 10 on it (1st dice – 10 – 60, 2nd dice 70 – 120, 3rd dice 130 – 180, last dice 190 and 200.. The learner throws the dices and reads the numbers. He/she gets cards with the numbers that he/she threw. The learner now builds the number line in tens. When he/she has a next turn, the process is repeated and the learner adds on to his/her previous number line. Repeat until the first learner has finished his/her number line to 200. The first one to finish is the winner.**

AS 2.3

o **Learners count forwards and backwards in fives in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 115, 120, 125, … … 140, 135, 130, …. ….**

o **Learners count on an empty 200 block. Ask them to find the number 5 and colour it yellow. Now find 5 more and colour it green. Repeat until the learner has completed the 150 block. Count forwards and backwards.**

o **Find a colouring picture and tippex most of the outline out , or a dot-to-dot- picture, or create your own picture. Write the numbers 0 5 10 etc in and let the learner complete the picture by joining the numbers in the correct order (dot-to-dot). Can also be done counting backwards.**

AS 2.4

o **Learners count forwards and backwards in two's in the number range 0 – 150. The learners may use counters, an abacus, number grid or number line. Eg. 138, 140, 142, … …   150, 148, 146, … ….**

o **Let the learners use a tape measure/ruler and count in 2's. Tell them, put your finger on 78cm and count on in 2's. Now count backwards, starting at 150cm, and end at 98cm**

o **Use play or real money (R2) and count in two's**

AS 3

o **Learners read any number symbol in the number range 1 – 150. The learners read the symbols on number cards, a number grid or a number line. Eg. 99   142**

o **Learners play the fishing game. They catch a fish, read the symbol and write it in their mat books. Write the number name to match.**

o **Learners write any number name in the number range 0 - 100 . Eg.   47 forty-seven /   98 ninety - eight. Pack out 10 skittles (empty 500ml plastic colddrink bottles works well). Place a number in the number range 0 – 100 under each skittle. The learner rolls the ball and all the numbers of the skittles that have fallen over must now be written down and next to it their number names. Do it in the mat books.**

AS 4.1

o **Learners order whole numbers 0 – 99 in ascending order (smallest to biggest). Learners may use a number grid or number line. Eg. 55 32 97 15   15 32 55 97**

o **Each learner in the group receives a set of number cards. The learners place their cards in order, like steps to the King's throne. If the ordering is correct, the learner can sit on the throne and be the king until the next learner gets his/her ordering correct.**

o **Learners order whole numbers 0 – 99 in descending order (biggest to smallest.) Learners may use a number grid or a number line. Eg. 78 54 99 14 41   99 78 54 41 15**

o **Give learners an old puzzle with numbers on the back of each puzzle piece. The learner must build the puzzle, by putting down the pieces from the biggest number to the smallest number. When all the numbers have been ordered, the puzzle will be finished to admire.**

o **Learners describe the position of the number 0 – 99 using before, after, between. Learners may use a number grid or a number line. Eg.. what comes before 96, what comes after 23, what comes between 78 and 80**

o **Give learners a number grid up to 99. Ask learners to colour the number 78. Now find the number that comes before 78 and colour it blue. Colour the number that comes between 78 and 80 yellow, etc. Write down all the numbers that you have coloured and order them from the smallest to the biggest.**

o **Learners compare numbers 0 – 99 using more than, less than, bigger than, smaller than, biggest, smallest. Learners may use a number line or a number grid. Eg. 1 more than 52, 2 less than 88,**

which is the smallest 76 or 67, which is the biggest 15 or 51, which numbers between 66 and 69 are bigger than 67, which numbers between 54 and 58 is smaller than 56?

o **Use vocabulary like: bigger than, smaller than, biggest, smallest, 1 more, 5 less, etc. Learners can use a number block or a number line.**

1		3		5	6	7	8	9	10
11	21	13	14		16	17	18		20
21	22	23	24	25		27	28	29	30
31		33		35	36	37	38	39	
41	42	43	44	45	46	47		49	
51	52		54		56	57	58	59	60
61	62	63		65	66		68	69	70
	72	73	74	75	76	77		79	80
81	82		84	85		98	88	89	90
91		93	94	95	96	97		99	100

Example – workcard

	Next	5 more	10 less	Before	after	+ 20
75						
68						
52						
Own number						

AS 5

o **Learners identify the place value of a given digit in a number in the number range 0 – 99. Learners may use flard cards. Eg. (1<u>1</u>   10 or 1ten)   (1<u>1</u> [   ] or [   ] ones)**

o **Use flard cards to illustrate place value. Build the number 93. Learners take the 90 and the 3 and pack them out. (The 3 is placed on top of the 0) They expand their number (pull them apart). Teacher asks: "What numbers did you use to make 93? Put the cards together again. Teacher tells the learners to look at their cards. Teacher says: 93 take away 90. Learners take the 90 away. What do you have?(3) Put it together again. Teacher says: 93 take away 3 – learners take the 3 away. What number do you have now? (90) Put it together again. What does the 9 stand for? And the 3?**

o **Build a number using a 90 and a 3. What is the number? How many tens and how many ones are in the number? Can you change the number by only replacing 1 card? Change the tens. What is your new number. Now change only the ones – what is your new number? Is the number bigger/smaller/less/more than your initial number?**

AS 6

o Learners bring empty boxes, tins, etc. to school. These items are placed in the "shop". Work in pairs – the buyer and the shopkeeper. The buyer receives for example R50 only. The learner now buys from the shop, pays with play or real money and receive change if necessary, from the learner who is the shopkeeper. To check: In your mat book, draw what you bought, write the amount next to it, and then add everything together. Now work out your change after paying with your R50. Check if you received the correct amount.
Eg. corn flakes R10,50 + Coke R5,00 + Sugar R14,50, Coffee R13. Pay with R50 and get R7 change.

o Place coins on the mat like steps. At the end of these steps there is a throne with a crown on. The learners can only become king if they can climb all the steps to the throne. To be able to climb the steps, they must add the value of the coins together, Eg. 20c   50c   28c. If the learner adds correctly (98c) he/she can sit on the throne until the next learner answers correctly.

o Give two learners in the group a bag with coins. They must sort the coins according to value and then count the money. The must write everything down, Eg. 6 20c coins = R1,20; 4   50c coins = R2,00; 8 10c coins = 80c. Now the amounts must be added together. The team who gets to the correct answer first, is the winning team.

o Use junk mail. Each child receives a Spar advertisement. He/she writes in his/her book: "I have R80 to spend. I can buy the following. Learner now cuts out the pictures of his/her choice, keeping in mind how much money he/she has to spend, with the amounts and glues it into their workbooks. Learners now write down the amounts and add it together. Eg. R10,50 + R14,50 + R22,00 + R13,50 = R60,50. They now have to determine how much change they need to get. Eg. R80,00 – R60,50 – R19,50.

AS 7

o Learners solve and explain solutions to practical problems involving equal sharing and grouping where the remainder is a fraction (e.g. ¼) in the number range 0 – 99. Learners may use concrete apparatus or drawings. Eg. Share 25 sausages amongst 4 children. If there are 12 marbles in a bag, how many marbles will there be in 3 bags?

o Share 13 Bar ones amongst 4 friends so that they all get the same. There must not be anything left over. Eg. The teacher can use pictures of chocolates instead of the real thing. Let the learners share the bar ones physically between the 4 friends and then cut the remaining one into ¼'s . Each one will receive 3 ¼

AS 8.1

o Learners perform addition and subtraction with adding or subtracting a whole ten to/from any number in the number range 0 – 99. Learners may use a number square or a number line. Eg. 87 + 10   75– 10
 58 + 5 = 58 + 2 + __

o   Use a flow diagram where the initial number has been filled in. Subtract 10 from each number.
    Eg.
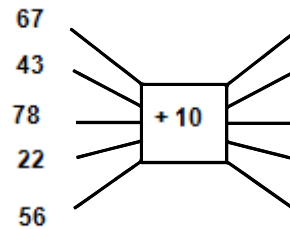
```
67
43
78    + 10
22
56
```

    This activity can be used for addition and subtraction with whole tens.

o   Let the learners take a group of 6 tens and 2 ones and a group of 2 tens. They can use counters
    (some in groups of 10 and the rest ones). Find the *sum* of the counters.
    Eg. 62 + 20 =
        60 + 2 + 20
        60 + 20 = 80
        80 + 2 = 82

  AS 8.2

o   Learners count forward on counting block or number grid, in multiples of 3,,4,6,7,8 and 9 in the
    number range 0 – 50, as <u>preparation for multiplication.</u>

o   Learners calculate the multiplication of 1-digit by 1-digit numbers with solutions to at least 50.
    Learners may use counters, drawing or number grid. Eg. 6x6 =   4 x 7 =

o   Give each group in the class a plan of a flower garden. Discuss what they see. Ask them to discuss
    or calculate the number of flowers in the garden.

     1 row x 4 bees = 4

     2 rows x 4 bees = 8

     3 rows x 4 bees = 12

  Learners now write down: 4 + 4 + 4 = 12   or 3 x 4 = 12
 Now they can solve other problems using the above as a guideline.

o   Solve this problem:
    Thami drinks 3 cups of milk every day. How many cups of milk does he drink in a week?

  AS 8.3

o   Learners estimate the answer to addition, subtraction and multiplication problems. Learners
    compare the calculated answer. Estimation should be used by the learners continuously throughout
   all the LO's.

AS 9.1

o **Learners perform mental calculations involving addition and subtraction in the number range 0 – 20. Teachers use flashcards with the number symbols to represent the number combinations. Eg. 16 + 4 – 3 = __   20 – 8 = __**
Addition and subtraction of single- digit numbers in the number range 0 – 20 with more than one operation.
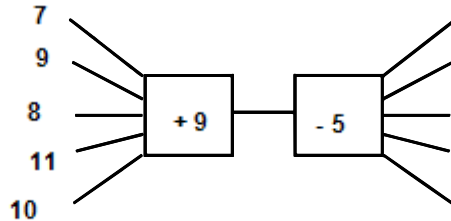
Do the same type of activity with minus and plus only

AS 9.2

o **Learners perform mental calculations with multiplication with answers to at least 20. The teacher uses flash cards with number symbols to represent the multiplication calculations. Eg. 6 x 3 = __   2 x 10 = __**
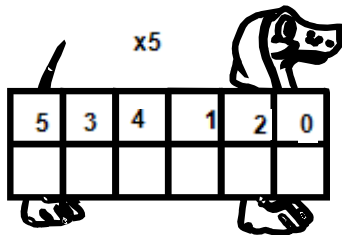
o **Multiplication of 4. Learners do a worksheet, or a activity on the mat.**

AS 10.2

o **Learners double numbers with answers in the number range 0 – 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. Eg. double 43   double 37.**

o **Each learner receives a card with 6 different 2-digit numbers on. The learner's cards must be different. The teacher calls out a number and says: "Double my number. If the learner has this number on his/her card, he/she covers the number with a bottle top. The first learner to cover all the numbers, shouts out : "Yes". This learner is the winner.**

o **Learners halve numbers without a remainder (even numbers) in the number range 0 - 99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards.   Eg.halve 92**

- o Place numbers (even) in the number range 0 – 99 in a circle on the mat. The teacher plays, or sings a song while the learners move clockwise in the circle. When the music stops, the learners must halve the number that they are standing next to. Repeat exercise a few times.

- o Ask a learner to give you an even number. Ask another learner to halve the number. The rest of the group writes down the answer and checks whether the learner's answer was correct.

- o Learners halve numbers with a remainder (odd numbers) in the number range 0 -99. Learners may use concrete apparatus, drawings, number lines, number grid, abacus or flard cards. e.g. halve 67 halve 83

- o Repeat any of the above activities, but use odd numbers (numbers with a remainder)

AS 10.3
- o Learners use concrete apparatus when counting, building up, breaking down, doubling and halving numbers.

AS 10.4

- o **Number line: - Integrate with all number work**

AS 11

- o **Learners explain solution to problems in the number range 0 –99**

AS 12

- o **Learners check each other's solutions to problems in the number range 0 – 99**

LO 2

AS 2

- o Copies and extends simple number sequences to at least 150. Learners may use an abacus, number grid or a number line.

- o The learners work in pairs. Each learner receives a section of the 200-chart which he/she uses to make a number chart puzzle. One learner cuts up his/her chart into rows, the other into columns. They shuffle their pieces and build the charts up again. They shuffle them again and build each other's charts.

151	152	153	154	155	156	157	158	159	160

103
113
123
133
143

o Play a pattern game in groups. Each group receives an A4 piece of paper and a dice. Give the groups the starting number, ie 89. The first learner throws the dice and whatever number it lands on, is the addend (number to be added), for example: 89 + 6 = 95. The learner writes the sun on the paper. The paper is then passed to the next learner who adds on 5 and writes the new total (train sum), 89 + 6 = 95 + 5 = 100, etc. This continues around the group. When each learner has had a turn, a new learner decides the starting number and rolls the dice to find which number must be added on. Work in the number range 0 - 150

AS 3

o Creates own patterns. Learners create their own number patterns in the number range
  0 – 150. Learners may use a number grid or a number line.

o Creates own patterns in mat book. Explain it to a friend
  Eg 99 104 109 114 …. …. …. ….. (adding on 5)
  141 135 130 125 ….. ….(counting backwards in 5's)

AS 4

  Learners describe a given/own pattern Eg. Learners create their own patterns and then
o discuss it with the group. Eg. 67 77 87 97   150 148 146 144 142

LO 3

AS 1

o Learners recognise, identify and name 2D-shapes and 3D -objects in the environment and in pictures. Eg. 3D objects: boxes, balls, cylinders   2D-shapes: triangles, squares, rectangles, circle. Use objects that learners brought to school previously.
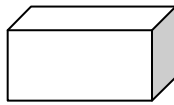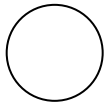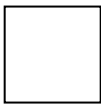
Play the game: "Feely bag". Put the objects and shapes in a Feely bag and the learners have to guess through feel what the shape is. Encourage learners to talk about their actions.

LO 4

AS 1

Reads and writes analogue clock time in terms of hours and minutes, on a daily basis.

AS 2

o Learners answer questions about the order of days of the week and the months of the year. Learners may use a calendar. Answer questions like: How many months in a year? Which is the first month? Which month comes before September? Which is the 10th month?. How many days in a week? How many days in a working week?

AS 3.1

o Calculate elapsed time in: hours and minutes using clocks

o Learners answer the following questions and show or fill in on a worksheet: <u>Remember to do counting in 5's before you start.</u>
How many minutes is it from 5 o'clock to twenty past 5? How many minutes is it from 3 o'clock to ten past 3? How many minutes is it from 11'clock to twenty to twelve?

AS 3.2

o Calculates elapsed time in: days, weeks and months using calendar.

o Use the class calendar to determine which month will it be next, which month is after September, what day will September end on? Etc.

LO 5

AS 1

o Learners collect data in the classroom and school environment according to 1 attribute. Eg Learners answer questions about the collections.

o Use 2D shapes and 3D objects that learners have already collected. Answer questions such as: " What shapes and objects do you see? Why is the block a 3D and the square a 2D?

AS 2

o **Learners sort physical objects to 1 attribute. Learners may use picture of drawings to represent the real objects. Eg. sort vegetables, i.e cabbage, carrots, pumpkin.**

o **Sort according to one attribute such as: all the squares or 3D objects that have a square   shape in it, all the rectangles or 3D objects that have a rectangular shape in it, etc.. Put them in their categories. Which categories are the most/least? How many of each? How many more/less. How many will two categories be if I add them together?**

AS 3

o **Learners give reasons for grouping collections in a particular way.**

AS 4

o **Learners draw crosses or construct pictographs to show correspondence between collected data and representation. Horizontally or vertically. Eg.**

🗄	*	*	*
▱	*	*	

Horizontally

	*
*	*
*	*
◯	△

Vertically

AS 5

o **Learners describe, explain and answer questions about the graph. How many of each shape of object?   Which shape or object is the least/most, etc?**

RESOURCES:

Counters (beads, sticks, beans, stones, blocks,), abacus, number grid, number line, different number charts with numbers 0 – 200 with open blocks, numbers to fit into the number chart, 4 dices with multiples of 10 on it, 150 square jigsaw, empty number grid(200), dot-to-dot-picture, tape measure, ruler, skittles or 500ml plastic bottles, ball, cardboard, scissors, fish template, paper clip, fishing line/fishing rod, magnet, crown, chair as throne, flash cards with numbers/symbols, flash cards with number names, practical activity sheet, 100 number block, worksheets, cards with numbers, puzzle, items to use in play shop, junk mail, flard cards, real or play money, mat books, pencils, crayons, flash cards with bonds, flash cards with mental mahts + and - ,flash cards with repetitive addition, flash cards with x, set of cards with sums and set of cards with the answer to the sums (snap cards), apple or picture of an apple, knife, flash card with ½ / half on it, cardboard square, flash card with ¼ / quarter on it, A4 sheet of paper, dice, sausages or pictures of sausages, marbles, mini bar ones, or pictures there of, plan of flower garden, , CD player with CD or piano, cut up 200 number chart – some in rows, some in columns, 2D shapes (triangles, squares, rectangles, circles), 3D objects (boxes, balls, cylinders, spheres), flash cards of 2D shapes and 3D objects, flash cards pictures of 2D shapes and 3D objects, Feely bag, calendar, analogue clocks, graphs – horizontally and vertically

REFLECTIONS:

BARRIERS:

WEEK 10

TERM 3   WEEK 10

LESSON PLANS – LEARNING OUTCOMES/ASSESSMENT STANDARDS

LEARNING OUTCOME 1 – NUMBERS, OPERATIONS AND RELATIONSHIPS

AS 1: Counts to at least 100 everyday objects reliably

AS 2.1 Counts forwards and backwards in ones from any number between 1 - 200
AS 2.2 Counts forwards and backwards in tens from any multiple of 10 between 0 - 200
AS 2.3 Counts forwards and backwards in fives from any multiple of 5 between 0 - 200

AS 2.4 Counts forwards and backwards in twos from any multiple of 2 between 0 – 200

AS 3: Knows and reads number symbols from 1 to at least 200 and writes number names from 1 to at least 100

AS 4: Orders, describes and compares the following numbers:
    4.1 Whole numbers to at least 2-digit numbers

AS 8: Can perform calculations, using appropriate symbols, to solve problems involving:
    8.1 Addition and subtraction of whole numbers with at least 2 digits

AS 9: Performs mental calculations involving:
    9.1 Addition and subtraction for numbers to at least 20

LEARNING OUTCOME 2 – PATTERNS, FUNCTIONS AND ALGEBRA

AS 2: Copies and extends simple number sequences to at least 200

AS 5: Identifies, describes and copies geometric patterns in natural and cultural artifacts of different cultures and times

LEARNING OUTCOME 3 – SPACE AND SHAPE

AS 3: Observes and creates 2D shapes and 3D objects using concrete materials(Eg. building blocks, construction sets and cut-out-2D shapes)

AS 6: Positions self within the classroom or 3D objects in relation to each other.

LEARNING OUTCOME 4 – MEASUREMENT

AS 3: Calculates elapsed time in:
    3.1 hours and minutes using clocks

GRADE 2 LESSON PLAN – TERM 3 WEEK 10

This is the last week of the term. You will revise the following:

LO 1 AS 1, 2.1, 2.2, 2.3, 2.4, 3, 4.1, 8,1 and 9.1
LO 2 AS 2 and 5
LO 3 AS 3 and 6
LO 4 AS 3.1

A Mini Maths Practical Olympiad outdoor activity has been worked out. This is only an example, but it will be huge fun.

1. **Divide the class into, for example, 4 equal groups. (not according to ability, but a mixed group)**

2. **The group now chooses a leader**

3. *Explain the concept of the Olympiad to the learners and stress the fact that they must work together in their groups. Explain to the team that there are four "stations" where they will receive instructions on what they must do. They must do exactly what the instructions tell them to do. A team that does not do this, will be disqualified. **The teacher must prepare these stations before the Olympiad starts, by numbering the stations, putting out the necessary tools and instructions.***

4. **Give each group a worksheet with 2 clocks without hands on it. As soon as the learners start, they must fill in the first clock (beginning time) and when they return and have completed the Olympiad, fill in the second clock (end time).**

5. **Now the fun begins. Each team gets a colour, name or number that will represent them. They have to move between the stations, following their name/colour or number.**

6. **All teams move out to the first "station" where the leader will start by reading the instructions. Only the leader may read the instructions and fill in the worksheets.**

Station 1
Tools needed per team: box, 2 skipping ropes, flashcards with instructions, or a instruction leaflet, as per number 2 below. Station 2 instruction note.
1. **"Warm up". Leader reads the instructions:** *2 learners skip with skipping rope, while the rest of the team counts in* <u>1's from 120 to 130</u>*. Now 2 new learners skip with skipping rope, while the rest of the team counts in* <u>2's from 132 to 148</u>*. The next two learners skip with skipping rope, while the rest of the team counts in* <u>5's from 115 to 150</u>*. Lastly the next 2 learners skip with skipping rope, while the rest of the team counts* <u>backwards</u> *in* <u>10's from 200 to 110</u>*.*

2. **Leader reads the Station 2 instruction note:** *Walk 20 steps forward (backs to starting point) to get to Station 2.*

Station 2
Tools needed per team: box or ice cream container, leaves with numbers attached to it with a pin, stones with number names on paper, attached with presstik. Station 3 instruction note.

1. *Match the number on the leaf to the number name on the stone. Pack the leaves and stones in the box in the correct order, from the smallest to the biggest. Leave the stones and leaves in the box.*

2. **Leader reads the Station 3 instruction note:** *Take 10 steps to your left, with your back to the starting point.*

Station 3

Tools needed per team: box or ice cream container, A4 paper, pencil, 10 biscuits or jellytots or any small sweets. Station 4 instruction note. Note to teacher: the sum in number 1 should read 10 – 6 = 4

1. *Count the sweets in the box and write down the number on your A4 sheet. Hand out 1 sweet to each team member, which they may eat. Count how many sweets were handed out and write it on your paper. Now do the sum and work out how many sweets should be left in the box. Write down the sum. Leave the remainder of the sweets in the box – be honest!*

2. Leader reads the Station 4 instruction note: Add the following: 7 + 5 = ____. The answer to this sum will tell you how many steps to take forward to get to Station 4.

Station 4

Tools and materials needed per team: small table, box, straws, boxes, lids, sticks, paper, string, wool and glue, crayons and a pair of scissors to work with. Note to teacher: Each table should have different materials to make sure that the group's end product looks different. Worksheet with clock on, group assessment form (each team will assess themselves – did we work together, did we listen to our leader, etc)

1. *Let the group position themselves <u>around</u> the table. Allow 2 learners to empty the box on the table. Use the content of the box and discuss what the group can or would like to build or construct. <u>You have to use all the materials to finish your construction, eg. house, robot.</u>*

2. *All team members must participate. If everyone is ready, and the team knows what they want to do, the leader sets the alarm clock, or watch, or cell phone to go off in 25 minutes. When the alarm goes, all tools must be put down, the table must be cleaned and the team must move to the starting point with their model.*

3. *Team members must sit in their groups, complete the clock with the finished time and wait for instructions from the teacher. Team members complete a group assessment form, while waiting.*

Teacher asks each team to present their model and "show and tell". Once all the teams have done this, the teams will get some time to discuss which team's model should be the winning model. The leader plots the teams decision on a pictograph. The winners are announced and the winning team receives a Mini Maths Practical Olympiad Winner certificate. The other teams receive a Mini Maths Practical Olympiad Participant certificate.

_____

RESOURCES:

Leader badge to identify each team, whistle for teacher, worksheets with clocks, pencil, flash cards with words: Station 1, Station 2, Station 3, Station 4, boxes, skipping ropes, flashcards with instructions or instruction leaflets for each station, ice cream container, leaves with number attached to it with a pin, stones with number names on paper attached to it with prestik, A4 paper, biscuit or jelly tots or small sweets, small tables for each station, straws, boxes, lids, sticks, paper, string, wool, glue, crayons, pair of scissors, certificates for winners, certificates for participants, graph (teacher's own choice.

REFLECTIONS:

_____

BARRIERS:

FLARD CARDS

1	2	3	4	5	6	7	8	9	0

1	0	2	0	3	0	4	0	5	0

6	0	7	0	8	0	9	0

1	0	0	2	0	0	3	0	0

4	0	0	5	0	0	6	0	0

7	0	0	8	0	0	9	0	0